



**CITY OF SANTA BARBARA
COMMUNITY DEVELOPMENT DEPARTMENT
DRAFT MITIGATED NEGATIVE DECLARATION**

Pursuant to the State of California Public Resources Code and the "Guidelines for Implementation of the California Environmental Quality Act of 1970," as amended to date, this Draft Negative Declaration has been prepared for the following project:

PROJECT LOCATION: 1776 Eucalyptus Hill Road

PROJECT PROPONENT: Eucalyptus Modern, LLC

PROJECT DESCRIPTION: The project involves the subdivision of a 172,137 net square foot lot into two parcels. The parcel is a steep east-facing slope of 35%. Parcel A would be 75,301 net square feet with an average slope of 36%. Parcel B would be 96,836 net square feet with an average slope of 35% and would contain the existing approximately 9,000 square foot single-family residence. Ingress to both lots would be provided via the existing driveway apron located primarily on Parcel B. No residential development is currently proposed for Parcel A, although a conceptual study has been prepared to illustrate development potential. The building envelope for Parcel A is 5,200 square feet, with a 28% slope. The applicant also proposes to remove a paved driveway that leads to the bottom of the hill, restore the hillside to its natural topography, and install a new storm drain that outlets at the edge of the creek, thus correcting an existing erosion problem.

MITIGATED NEGATIVE DECLARATION FINDING:

Based on the attached Initial Study prepared for the proposed project, it has been determined that, with implementation of mitigation measures agreed to by the applicant, project environmental impacts would not be significant and the proposed project will not have a significant effect on the environment.

DAAndalero
Environmental Analyst

11-1-06
Date

CITY OF SANTA BARBARA
COMMUNITY DEVELOPMENT DEPARTMENT, PLANNING DIVISION

INITIAL STUDY/ ENVIRONMENTAL CHECKLIST MST2002-00614

**PROJECT: 1776 Eucalyptus Hill Road
Residential Subdivision**

October 19, 2006

This Initial Study has been completed for the project described below because the project is subject to review under the California Environmental Quality Act (CEQA) and was determined not to be exempt from the requirement for the preparation of an environmental document. The information, analysis and conclusions contained in this Initial Study are the basis for deciding whether a Negative Declaration (ND) is to be prepared or if preparation of an Environmental Impact Report (EIR) is required to further analyze impacts. Additionally, if preparation of an EIR is required, the Initial Study is used to focus the EIR on the effects determined to be potentially significant.

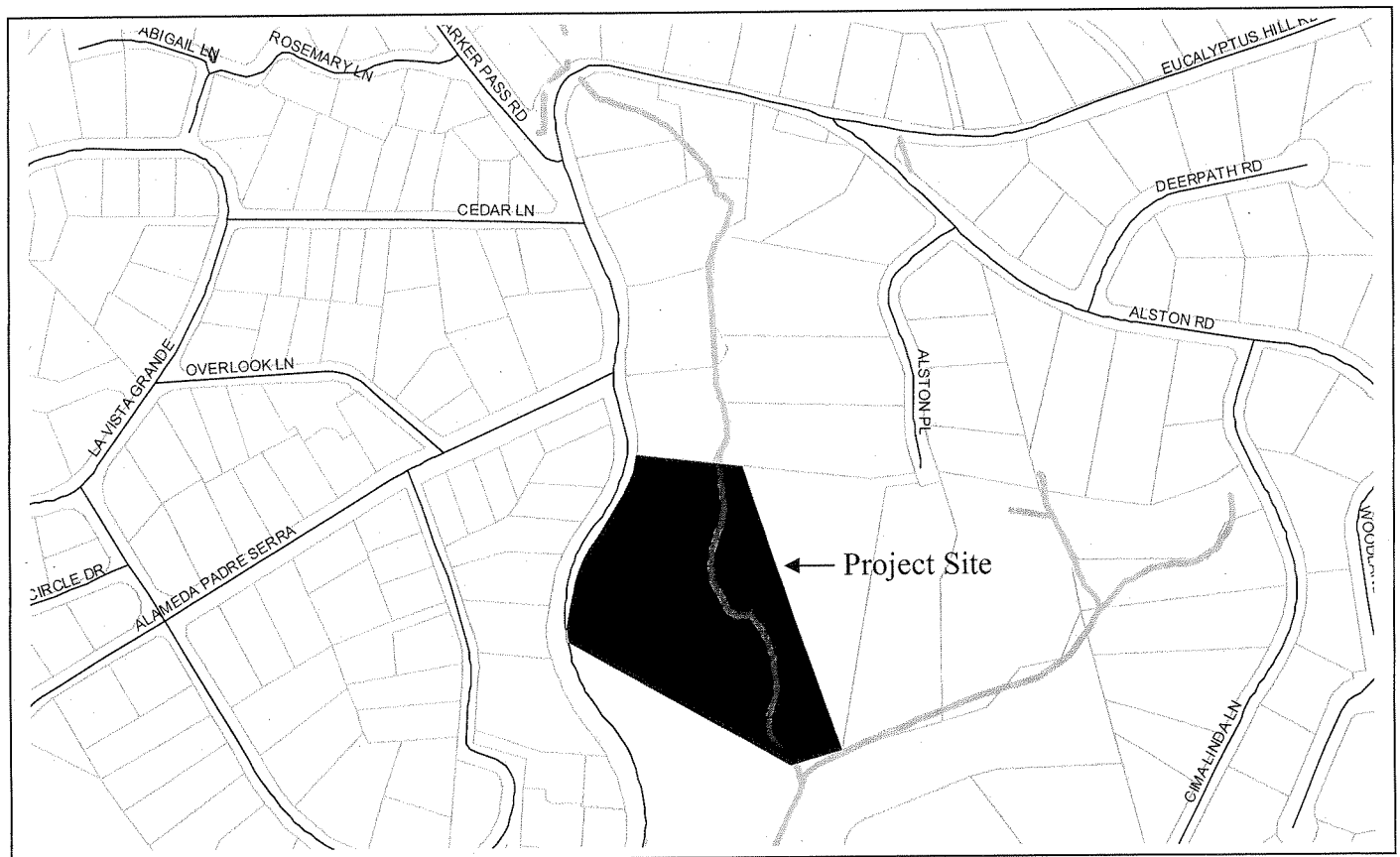
APPLICANT/ PROPERTY OWNER

Applicant: Rick Jeffrey

Owner: Eucalyptus Modern, LLC

PROJECT ADDRESS/LOCATION

The project site is 4.12 gross acres (3.95 net acres) in size and is located at 1776 Eucalyptus Hill Road. The site is located in the Eucalyptus Hill neighborhood, within the City of Santa Barbara.



PROJECT DESCRIPTION (See *Exhibit A-Project Plans*)

Project Components: The applicant proposes to subdivide a 172,137 net square foot lot into two parcels. The parcel is a steep east-facing slope of 35%. Parcel A would be 75,301 net square feet with an average slope of 36%. Parcel B would be 96,836 net square feet with an average slope of 35% and would contain the existing approximately 9,000 square foot single-family residence. Ingress to both lots would be provided via the existing driveway apron located primarily on Parcel B. No residential development is currently proposed for Parcel A, although a conceptual study has been prepared

to illustrate development potential. The building envelope for Parcel A is 5,200 square feet, with a 28% slope. The applicant also proposes to remove a paved driveway that leads to the bottom of the hill, restore the hillside to its natural topography, and install a new storm drain (160 linear feet underground, 260 linear feet aboveground) that outlets at the edge of the creek, thus correcting an existing erosion problem.

Construction: The applicant estimates that the first phase of construction (installing the storm drain, removing the access road down the hillside and returning the hillside to its natural topography) would require 60-90 days to complete. The second phase, which is not a part of the current proposal, includes construction of a new house and associated grading, would likely take one year. Project staging would occur on-site.

Required Permits: In order for the project to proceed, the following discretionary approvals are required by the Planning Commission:

1. Tentative Subdivision Map (TSM) to divide one parcel into two lots (SBMC §27.20).
2. Design Review by the Architectural Board of Review for grading and vegetation removal (SBMC §22.68).

ENVIRONMENTAL SETTING

Existing Site Characteristics

Topography: Topography of the site is steep with slopes of 35%.

Seismic/Geologic Conditions: Geologic conditions onsite are characterized by 3-7 feet of dark brown expansive clay underlain by a tan stiff clay and white shale. Groundwater was not encountered at depths of 20 feet. The City's Master Environmental Assessment (MEA) and the geotechnical report prepared for the project identify the potential for liquefaction to occur as a result of earthshaking is minimal. The potential for expansive soils is moderately-high. The potential for seismic hazards is high.

Fire: The project site is located in a high fire zone.

Flooding/Drainage: The project site is not located within the 100 year flood plain as shown on the Flood Insurance Rate maps. Drainage from the site sheet flows to the east. Chelham Creek (also identified as an unnamed creek) runs in a north-south direction through the site.

Biological Resources: The project site is located within an urban area and is identified on the City's MEA map as containing southern oak woodland and coastal sage scrub. As identified above, a creek runs through the site and has associated riparian habitat.

Archaeological Resources: The project site was the subject of a Phase I Archaeological investigation prepared and approved in 2005. No resources were identified onsite and the report concluded that no further analysis or monitoring during construction was required.

Noise: The project site is currently subject to noise levels of less than 60 Ldn dBA, which is acceptable for residential uses. Noise is not anticipated to be an issue.

PROPERTY CHARACTERISTICS

Assessor's Parcel Number:	015-161-054	General Plan Designation:	Residential – 2 units per acre
Existing Land Use:	Single-family residential	Parcel Size:	4.12 acres (gross) 3.95 acres (net)
Zoning:	A-2, One Family Residential	Proposed Land Use:	Single-family residential
Slope:	35%		
SURROUNDING LAND USES:			
North:	Single-Family Residential		
South:	Single-Family Residential		
East:	Single-Family Residential		
West:	Single-Family Residential		

PLANS AND POLICY DISCUSSION

Land Use and Zoning Designations:

The project site is designated Residential – 2 units per acre by the General Plan Land Use Element. The project is located in the Eucalyptus Hill neighborhood, which is bordered by the City limits on the north and east, Sycamore Canyon on the west and the bottom of the hill and Highway 101 on the south. The majority of this neighborhood is developed with single-family homes. The area is characterized by low density residential development.

The project site is zoned A-2, One Family Residential. In the A-2 district, the minimum lot size requirement is 25,000 square feet. Slope density requirements are applied to the site in recognition of the steep topography, which increases the required minimum lot size by the following factors when the average slope of the parcel falls within the following parameters:

<u>Percent of Average Slope</u>	<u>Factor</u>
0% up to and including 20%	1.5 times minimum lot area
over 20% up to & including 30%	2.0 times minimum lot area
over 30%	3.0 times minimum lot area

The project would subdivide the lot into two lots with the following lot sizes:

Lot #	Average Slope	Required Lot Size per A-2 Zone with Slope Density (Net sq. ft.)	Proposed Lot Size (Net sq. ft.)	Complies with Minimum Lot Area Required?
A	36%	75,000 sq.ft.	75,301 sq.ft.	Yes
B	35%	75,000 sq.ft.	96,836 sq.ft.	Yes

General Plan Policies:

Initial analysis of project consistency with adopted City plans and policies indicates that the project could be found consistent with the existing General Plan Land Use Element designation of Residential, for the subdivision and future single family residence on the newly created lot. Various sections of this Initial Study make reference to applicable General Plan policies and ordinance provisions. The Planning Commission Staff Report will provide a further analysis of potential project consistency or inconsistency with the City General Plan elements, including the Land Use Element, Circulation Element, Conservation Element, Scenic Highways Element, Noise Element, Seismic Safety-Safety Element and other applicable plans and policies. Final determinations of project consistency with applicable policies will be made by the decision-makers as part of their action to approve or deny the project proposal. The following information consists

of some background information of the conservation, seismic safety/safety, noise and circulation elements of the General Plan.

1. Conservation Element

City Conservation Element policies provide that significant environmental resources of the City be preserved and protected. The Conservation Element requires implementation of resource protection measures for archaeological, cultural and historic resources; protection and enhancement of visual, biological and open space resources; protection of specimen and street trees; maintenance of air and water quality; and minimizing potential drainage, erosion and flooding hazards. The project may be found generally consistent with applicable policies of the Conservation Element through adherence to the identified project design and mitigation measures as detailed in this initial study, such that potential conflicts with Conservation Element policies are avoided or minimized such that they are in conformance with applicable policies.

With respect to hillside development, there are three policies under the Conservation Element that directly apply to the project site, which are discussed below:

Visual Resources Policy 2.0 – “Development on hillsides shall not significantly modify the natural topography and vegetation.”

Visual Resources Policy 2.1 – “Development which necessitates grading on hillsides with slopes greater than 30% should not be permitted...”

Conservation Policy 3.0 – “New development shall not obstruct scenic view corridors, including those of the ocean and lower elevations of the City viewed respectively from the shoreline and upper foothills, and of the upper foothills and mountains viewed respectively from the beach and lower elevations of the City.”

While the City closely scrutinizes proposals on new lots with steep slopes, the City also recognizes that there are legal lots in the City with slopes greater than 30%. The project has been designed to minimize the grading as much as possible; however, it is generally not feasible to entirely eliminate grading on hillsides with slopes greater than 30 percent. In cases where projects have steep slopes, the City uses the Neighborhood Preservation Ordinance (NPO) findings and the Single-Family Residence Design Guidelines for direction in reviewing appropriate development on constrained sites such as these. The NPO findings (SBMC §22.68.060) implement policies focused on hillside development in the City’s Conservation and Open Space Elements pertaining to protection of the public health, safety, and welfare, appropriateness of proposed grading and development given the site topography, protection of existing trees, preservation of public views, and compatibility with the neighborhood. These findings and guidelines have been considered throughout the review of this project.

Site constraints, in addition to the steep slopes, have also played into the siting of the proposed new development. These include existing oak woodland and creek habitat.

Future construction of a single-family residence on the new lot is not anticipated to obstruct important public scenic views to the ocean or lower elevations of the City nor would it obstruct upper foothill or mountain views from the beach or lower elevations of the City. The project site is surrounded by existing residential development as well as significant vegetation that is proposed to remain. Also, the public road is at a higher elevation than the proposed building envelope, thus making any new construction only minimally visible from the public road.

2. Seismic Safety/Safety Element

The City's Seismic Safety/Safety Element requires that development be sited, designed and maintained to protect life, property, and public well-being from seismic and other geologic hazards, and to reduce or avoid adverse economic, social, and environmental impacts caused by hazardous geologic conditions. The Seismic Safety/Safety Element addresses a number of potential hazards including, geology, seismicity, flooding, liquefaction, tsunamis, high groundwater, and erosion.

The project site is subject to a number of geologic and environmental constraints. As discussed in the Initial Study analysis, potential impacts associated with these hazards would be adequately addressed by implementing the identified project design and specified mitigation measures such that construction of the proposed development would ensure seismic and geologic stability, and reduce or avoid potential environmental impacts associated with unstable geologic conditions.

3. Noise Element

The City's Noise Element includes policies intended to achieve and maintain a noise environment that is compatible with the variety of human activities and land uses in the City. The proposed development would not generate a significant increase in existing noise levels in the neighborhood in the long-term or exceed noise level guidelines. As such, the proposed project may be found consistent with the applicable policies of the Noise Element.

4. Circulation Element

The Circulation Element of the General Plan contains goals and implementing measures to reduce adverse impacts to the City's street system and parking by reducing reliance on the automobile, encouraging alternative forms of transportation, reviewing traffic impact standards, and applying land use and planning strategies that support the City's mobility goals. Traffic and circulation impacts resulting from the proposed project are very minor, and thus the project could be found consistent with the Circulation Element.

MITIGATION MONITORING AND REPORTING PROGRAM (MMRP)

A Mitigation Monitoring and Reporting Program (MMRP) has been prepared for the project in compliance with Public Resources Code §21081.6. The mitigation measures suggested in the Initial Study may be refined or augmented by decision-makers. Monitoring and reporting requirements would be adopted as conditions of project approval. The draft MMRP is attached herewith as Exhibit H.

ENVIRONMENTAL CHECKLIST

The following checklist contains questions concerning potential changes to the environment that may result if this project is implemented. If no impact would occur, **NO** should be checked. If the project might result in an impact, check **YES** indicating the potential level of significance as follows:

Significant: Known substantial environmental impacts. Further review needed to determine if there are feasible mitigation measures and/or alternatives to reduce the impact.

Potentially Significant: Unknown, potentially significant impacts that need further review to determine significance level and whether mitigable.

Potentially Significant, Mitigable: Potentially significant impacts that can be avoided or reduced to less than significant levels with identified mitigation measures agreed-to by the applicant.

Less Than Significant: Impacts that are not substantial or significant.

1. AESTHETICS	NO	YES
Could the project:		<i>Level of Significance</i>
a) Affect a public scenic vista or designated scenic highway or highway/roadway eligible for designation as a scenic highway?		Less than Significant
b) Have a demonstrable negative aesthetic effect in that it is inconsistent with Architectural Board of Review or Historic Landmarks Guidelines or guidelines/criteria adopted as part of the Local Coastal Program?		Less than Significant
c) Create light or glare?		Less than Significant

Visual Aesthetics - Discussion

Issues: Issues associated with visual aesthetics include the potential blockage of important public scenic views, project on-site visual aesthetics and compatibility with the surrounding area, and changes in exterior lighting.

Impact Evaluation Guidelines: Aesthetic quality, whether a project is visually pleasing or unpleasing, may be perceived and valued differently from one person to the next, and depends in part on the context of the environment in which a project is proposed. The significance of visual changes is assessed qualitatively based on consideration of the proposed

physical change and project design within the context of the surrounding visual setting. First, the existing visual setting is reviewed to determine whether important existing visual aesthetics are involved, based on consideration of existing views, existing visual aesthetics on and around the site, and existing lighting conditions. The importance of existing views is assessed qualitatively based on whether important visual resources such as mountains, skyline trees, or the coastline, can be seen, the extent and scenic quality of the views, and whether the views are experienced from public viewpoints. The visual changes associated with the project are then assessed qualitatively to determine whether the project would result in substantial effects associated with important public scenic views, on-site visual aesthetics, and lighting.

Significant visual aesthetics impacts may potentially result from:

- Substantial obstruction or degradation of important public scenic views, including important views from scenic highways; extensive grading and/or removal of substantial amounts of vegetation and trees visible from public areas without adequate landscaping; or substantial loss of important public open space.
- Substantial negative aesthetic effect or incompatibility with surrounding land uses or structures due to project size, massing, scale, density, architecture, signage, or other design features.
- Substantial light and/or glare that poses a hazard or substantial annoyance to adjacent land uses and sensitive receptors.

Visual Aesthetics – Existing Conditions and Project Impacts

1.a) Scenic Views

The project site is located in an urban environment in the Eucalyptus Hill neighborhood of the City of Santa Barbara. The site is currently developed with a large single-family residence. Existing development in the project vicinity includes single-family residences. The site is located within the City's Hillside Design District and any development is subject to review by the Architectural Board of Review (ABR).

The City's Master Environmental Assessment (MEA) maps identify the parcel as located in an area of visual sensitivity and major hillside with slopes in excess of 30%. This raises the question of whether project construction has the potential to create an aesthetically offensive sight open to the public view. The project site is only minimally visible from any public vantage point. The project site slopes down from the roadway. As such, future development of the new lot would be minimally visible from Eucalyptus Hill Road, if at all. The site would be visible from adjacent residences on the other side of the creek.

Although construction of a residence on the new lot is not currently proposed, a building envelope has been established to identify the location of any future residential development. A case study has also been prepared to depict a potential development scenario for the site.

The ABR reviewed the proposal on several occasions and had the following cumulative comments: 1) The building envelope on slopes of less than 30% from an aesthetic viewpoint is a buildable site; 2) The proposed structure of 3,000 square feet, including garage, is acceptable in scale and would have minimal, if any visual impact; 3) The Hillside Design Guidelines technique of stepping back will further help mitigate any visual impact from across the canyon; 4) The Board appreciates the applicant's consideration in working with the neighbors; 5) The Board appreciates the applicant's elimination of the visual scarring caused by the existing access road; 6) The proposed interim landscape plan returns the hillside to a more natural condition despite being temporary until a future house is approved or built on a newly proposed lot; 7) Restudy the plant palette for more compatible plants with the existing vegetation; 8) The proposed east side improvements on Eucalyptus Hill Road, and the proposed driveway realignment for 1776 Eucalyptus Hill Road, are both beneficial improvements to a currently awkward and dangerous curve, and should improve walkability and maneuverability in that vicinity.

Given the location and topography of the site, public vantage points are limited. The project site is located in an urban area and is surrounded by residential development. Although a new residence is not currently proposed, when it is proposed, it will be subject to review by the City's ABR and compliance with the Neighborhood Preservation Ordinance and Hillside Housing Techniques.

A total of 53 trees will be removed from within the Parcel A building envelope. These include 50 non-native trees and 3 coast live oak saplings. Removal of this vegetation will be analyzed in terms of its biological impact in Section 3, "Biological Impacts," below. From an aesthetic point of view, although these trees do not provide for screening of the site from major public viewpoints, they do provide visual relief from surrounding urban development. 3.73 acres of the 4.12-acre site (90%) is covered with either mixed ornamental urban woodland or riparian oak woodland vegetation. A total of 0.68 acres of vegetation will be impacted by the proposed project (18% of site vegetation). Nevertheless, given the large

amount of trees and vegetation proposed to remain, and the types of trees (acacia, pittosporum, myoporum, and ash), excepting the oak saplings, the removal of the trees would be *less than significant*. Much of the vegetation proposed for removal is required for fire hazard reduction as described in Section 6 below.

The visual change resulting from the proposed project would be nominal from public view vantage points, and long term view impacts may be adverse but *less than significant*. The proposal would not obstruct any public vantage points and would incorporate development compatible with the surrounding neighborhood. No designated open spaces would be impacted by this proposal. Therefore, the impacts to scenic views would be *less than significant*.

1.b) On-Site Aesthetics

The proposed development requires review and approval by the Architectural Board of Review (ABR) in accordance with ABR Design Guidelines and Neighborhood Preservation Ordinance. The ABR has conceptually reviewed the plans and conceptual home proposal numerous times since 2004 (See Exhibit B). The ABR recommended a massing study to verify the appropriateness of heights and mass.

Findings concerning neighborhood and site compatibility and visual effects will be required by the ABR in order to approve the future residence. Subsequent ABR Preliminary and Final Design Review approvals will refine project site design, building heights and setbacks, architecture, landscaping, etc. The subdivision and future new single family residence’s effects on public scenic views, visual aesthetics and compatibility, would be *less than significant*.

1.c) Lighting

The project is located in a residential neighborhood. The project would provide outdoor lighting typical of residential areas on a project of limited scope. Exterior lighting would be subject to compliance with the requirements of SBMC §22.75, the City’s Outdoor Lighting and Design Ordinance. The ordinance provides that exterior lighting be shielded and directed to the site such that no undue lighting or glare would affect surrounding residents, roads, or habitat areas. As such, project impacts on lighting and glare would be *less than significant*.

Visual Aesthetics – Mitigation

No mitigation is required.

2. AIR QUALITY		NO	YES
Could the project:			<i>Level of Significance</i>
a)	Violate any air quality standard or contribute to an existing or projected air quality violation?		Less than Significant
b)	Expose sensitive receptors to pollutants?		Less than Significant
c)	Create objectionable odors?		Less than Significant
Is the project consistent with the County of Santa Barbara Air Quality Attainment Plan? Yes			

Air Quality - Discussion

Issues. Air quality issues involve pollutant emissions from vehicle exhaust and industrial or other stationary sources that contribute to smog, particulates and nuisance dust associated with grading and construction processes, and nuisance odors.

Smog, or ozone, is formed in the atmosphere through a series of photochemical reactions involving interaction of oxides of nitrogen [NO_x] and reactive organic compounds [ROC] (referred to as ozone precursors) with sunlight over a period of several hours. Primary sources of ozone precursors in the South Coast area are vehicle emissions. Sources of particulate matter (PM₁₀) include demolition, grading, road dust, agricultural tilling and mineral quarries and vehicle exhaust (PM_{2.5}).

The City of Santa Barbara is part of the South Coast Air Basin. The City is subject to the National Ambient Air Quality Standards and the California Ambient Air Quality Standards (CAAQS), which are more stringent than the national standards. The CAAQS apply to six pollutants: photochemical ozone, carbon monoxide, sulfur dioxide, nitrogen dioxide, particulate matter, and lead. The Santa Barbara County Air Pollution Control District (SBCAPCD) provides oversight on compliance with air quality standards and preparation of the County Clean Air Plan.

Presently, Santa Barbara County is considered in attainment of the federal eight-hour ozone standard, but does not meet the state one-hour ozone standard or the standard for particulate matter less than ten microns in diameter (PM₁₀). Insufficient data is available to determine our attainment status for either the federal standard for particulate matter less than 2.5 microns in diameter (PM_{2.5}) or the state PM_{2.5} standard. The state recently adopted a new eight-hour ozone standard that became effective in May 2006. Although the state has not yet issued attainment designations, the data indicate Santa Barbara County will be considered in nonattainment of this standard.

Impact Evaluation Guidelines. A project may create a significant air quality impact from the following:

- Exceeding an APCD pollutant threshold; inconsistency with District regulations; or exceeding population forecasts in the adopted County Clean Air Plan.
- Exposing sensitive receptors, such as children, the elderly, or sick people to substantial pollutant exposure.
- Substantial unmitigated nuisance dust during earthwork or construction operations.
- Creation of nuisance odors inconsistent with APCD regulations.

Long-Term (Operational) Impact Guidelines: The City of Santa Barbara uses the SBCAPCD thresholds of significance for evaluating air quality impacts. The APCD has determined that a proposed project will not have a significant air quality impact on the environment if operation of the project will:

- Emit (from all project sources, both stationary and mobile) less than 240 pounds per day for ROC and NO_x, and 80 pounds per day for PM₁₀;
- Emit less than 25 pounds per day of ROC or NO_x from motor vehicle trips only;
- Not cause a violation of any California or National Ambient Air Quality Standard (except ozone);
- Not exceed the APCD health risks public notification thresholds adopted by the APCD Board; and
- Be consistent with the adopted federal and state air quality plans for Santa Barbara.

Short-Term (Construction) Impacts Guidelines: Projects involving grading, paving, construction, and landscaping activities may cause localized nuisance dust impacts and increased particulate matter (PM₁₀). Substantial dust-related impacts may be potentially significant, but are generally considered mitigable with the application of standard dust control mitigation measures. Standard dust mitigation measures are applied to projects with either significant or less than significant effects.

Exhaust from construction equipment also contributes to air pollution. Quantitative thresholds of significance are not currently in place for short-term or construction emissions. However, SBCAPCD uses combined emissions from all construction equipment that exceed 25 tons of any pollutant except carbon monoxide within a 12-month period as a guideline threshold for determining significance of construction emission impacts.

Cumulative Impacts and Consistency with Clean Air Plan: If the project-specific impact exceeds the ozone precursor significance threshold, it is also considered to have a considerable contribution to cumulative impacts. When a project is not accounted for in the most recent Clean Air Plan growth projections, then the project's impact may also be considered to have a considerable contribution to cumulative air quality impacts. The Santa Barbara County Association of Governments and Air Resources Board on-road emissions forecasts are used as a basis for vehicle emission forecasting. If a project provides for increased population growth beyond that forecasted in the most recently adopted CAP, or if the project does not incorporate appropriate air quality mitigation and control measures, or is inconsistent with APCD rules and regulations, then the project may be found inconsistent with the CAP and may have a significant impact on air quality.

Air Quality – Existing Conditions and Project Impacts

2.a-b) Air Pollutant Emissions

Long-Term (Operational) Emissions: Substantial long-term project emissions could potentially stem from stationary sources which may require permits from the APCD and from motor vehicles associated with the project and from mobile sources including the automobile. The proposed project does not contain any stationary sources (gas stations, auto body shops, dry cleaners, oil and gas production and processing facilities, and water treatment facilities) which require permits from APCD. However, the proposed project will result in 10 new average daily trips (ADTs) and 1 peak hour trip (PHT).

Utilizing the URBEMIS 2002 ver. 8.7 computer model, it is estimated that the proposed project will generate 0.24 pounds per day of NO_x and 0.15 pounds per day of ROC. Therefore, the proposed project is anticipated to have a *less than significant* effect on the environment.

Short-Term (Construction) Emissions: The project would involve grading, paving, and landscaping activities which could cause localized dust related impacts resulting in increases in particulate matter (PM₁₀). Project grading would be completed in approximately 90 days. Estimated grading would consist of 350 cubic yards (cy) of cut and 800 cy of fill for interior road removal, hillside restoration, road widening, driveway reconfiguration and storm drain work. Dust-related impacts are considered *potentially significant*, but mitigable with the application of standard dust control mitigation measures. Future construction of the residence would have similar impacts.

Construction equipment would also emit NO_x and ROC. However, in order for NO_x and ROC emissions from construction equipment to be considered a significant environmental impact, combined emissions from all construction equipment would need to exceed 25 tons of any pollutant (except carbon monoxide) within a 12-month period. Utilizing the URBEMIS 2002 ver. 8.7 computer model, it is estimated that the proposed project will generate 0.05 tons per year of NO_x and 0.03 tons per year of ROC, during construction. Therefore, the proposed project is anticipated to have a *less than significant* effect on the environment.

Sensitive Receptors: Sensitive receptors are defined as children, elderly, or ill people that can be more adversely affected by air quality problems. Land uses typically associated with sensitive receptors include schools, parks, playgrounds, childcare centers, retirement homes, convalescent homes, hospitals, and clinics. Stationary sources are of particular concern to sensitive receptors, as is construction dust and particulate matter. The project would not include stationary sources, but sensitive receptors could be affected by dust and particulates during project site grading. Nuisance dust and particulates would be reduced to a *less than significant* level through application of dust control mitigation measures. The insignificant amounts of these pollutants would result in an insignificant exposure of sensitive receptors to pollutants.

2.c) Odors

The project is limited to residential uses, and would not include land uses involving odors or smoke.

The project would not contain features with the potential to emit substantial odorous emissions, from sources such as commercial cooking equipment, combustion or evaporation of fuels, sewer systems, or solvents and surface coatings. Due to the nature of the proposed land use and limited size of the project, project impacts related to odors would be considered *less than significant*.

Consistency with the Clean Air Plan:

Direct and indirect emissions associated with the project are accounted for in the CAP emissions growth assumptions. Appropriate air quality mitigation measures, including construction dust suppression, would be applied to the project, consistent with CAP and City policies. The project can be found consistent with the Clean Air Plan.

Air Quality – Mitigation

AQ-1 Construction Dust Control – Minimize Disturbed Area/Speed. Minimize amount of disturbed area and reduce on site vehicle speeds to 15 miles per hour or less.

AQ-2 Construction Dust Control - Watering. During site grading and transportation of fill materials, regular water sprinkling shall occur using reclaimed water whenever the Public Works Director determines that it is reasonably available. During clearing, grading, earth moving or excavation, sufficient quantities of water, through use of either water trucks or sprinkler systems, shall be applied to prevent dust from leaving the site. Each day, after construction activities cease, the entire area of disturbed soil shall be sufficiently moistened to create a crust.

Throughout construction, water trucks or sprinkler systems shall also be used to keep all areas of vehicle movement damp enough to prevent dust raised from leaving the site. At a minimum, this will include wetting down such areas in the late morning and after work is completed for the day. Increased watering frequency will be required whenever the wind speed exceeds 15 mph.

AQ-3 Construction Dust Control – Tarping. Trucks transporting fill material to and from the site shall be covered from the point of origin.

AQ-4 Construction Dust Control – Gravel Pads. Gravel pads shall be installed at all access points to prevent tracking of mud on to public roads.

AQ-5 Construction Dust Control – Disturbed Area Treatment. After clearing, grading, earth moving or excavation is complete, the entire area of disturbed soil shall be treated to prevent wind pickup of soil. This may be accomplished by:

1. Seeding and watering until grass cover is grown.
2. Spreading soil binders.
3. Sufficiently wetting the area down to form a crust on the surface with repeated soakings as necessary to maintain the crust and prevent dust pickup by the wind.
4. Other methods approved in advance by the Air Pollution Control District.

AQ-6 Construction Equipment Requirements. The following shall be adhered to during project grading and construction to reduce NOx and particulate emissions from construction equipment:

1. Heavy-duty diesel-powered construction equipment manufactured after 1996 (with federally mandated "clean" diesel engines) shall be utilized wherever feasible.
2. The engine size of construction equipment shall be the minimum practical size.
3. The number of construction equipment operating simultaneously shall be minimized through efficient management practices to ensure that the smallest practical number is operating at any one time.
4. Construction equipment shall be maintained in tune per the manufacturer specifications.
5. Catalytic converters shall be installed on gasoline-powered equipment, if feasible.
6. Diesel powered equipment shall be replaced by electric equipment whenever feasible.

Air Quality - Residual Impacts

Implementation of the identified mitigation measures would reduce short-term impacts to air quality to a less than significant level.

3. BIOLOGICAL RESOURCES		NO	YES
Could the project result in impacts to:			<i>Level of Significance</i>
a)	Endangered, threatened or rare species or their habitats (including but not limited to plants, fish, insects, animals, and birds)?	X	
b)	Locally designated historic, Landmark or specimen trees?	X	
c)	Natural communities (e.g. oak woodland, coastal habitat, etc.).		Potentially Significant, Mitigable
d)	Wetland habitat (e.g. marsh, riparian, and vernal pool)?	X	
e)	Wildlife dispersal or migration corridors?	X	

Biological Resources - Discussion

Issues: Biological resources issues involve the potential for a project to substantially affect biologically-important natural vegetation and wildlife, particularly species that are protected as rare, threatened, or endangered by federal or state wildlife agencies and their habitat, native specimen trees, and designated landmark or historic trees.

Impact Evaluation Guidelines: Existing native wildlife and vegetation on a project site are qualitatively assessed to identify whether they constitute important biological resources, based on the types, amounts, and quality of the resources within the context of the larger ecological community. If important biological resources exist, project effects to the resources are qualitatively evaluated to determine whether the project would substantially affect these important biological resources. Significant biological resource impacts may potentially result from substantial disturbance to important wildlife and vegetation in the following ways:

- Elimination or substantial reduction or disruption of important natural vegetative communities and wildlife habitat or migration corridors, such as oak woodland, coastal strand, riparian, and wetlands.
- Substantial effect on protected plant or animal species listed or otherwise identified or protected as endangered, threatened or rare.
- Substantial loss or damage to important native specimen trees or designated landmark or historic trees.

Biological Resources – Existing Conditions and Project Impacts

3.a, c, e) Native Wildlife, Natural Communities and Habitat and Wildlife Corridors

As recognized by the City of Santa Barbara Master Environmental Assessment, portions of this site are designated as southern oak woodland and coastal sage scrub habitat. Chelham Creek runs in a north-south direction in the eastern portion of the site. The creek is within the Andre Clark Bird Refuge Watershed. The creek is mapped by USGS as an intermittent stream. Within the property, the creek bed width is approximately 8-12 feet.

A Biological Assessment of the site was prepared by Watershed Environmental (Exhibits C and D). Vegetation on the project site is characterized by mixed ornamental urban woodland (ornamental trees, native and non-native herbaceous plants and shrubs) in the western portion of the site, and riparian oak woodland (native coast live oaks with an understory of primarily poison oak and wild blackberry, with some non-native pittosporum trees and garden nasturtium) in the eastern portion of the site.

According to the Biological Assessment, there is no potential for steelhead trout to occur in the study area because the creek does not have year-round surface water flow and does not contain pools that are capable of supporting juvenile fish. Also, the ephemeral nature of the creek and lack of connectivity between suitable undeveloped natural habitat creates a very low potential for coast range newt, California red-legged frog, southwestern pond turtle or two-striped garter snake to inhabit the area. Wildlife expected on-site is limited to species typical of urban settings and the site appears to support a rich bird life, including several species of raptors. Although several sensitive species are mapped as occurring within one mile of the property, no sensitive animal or plant species listed or proposed for listing under either the State or Federal Endangered Species Act are known or expected to inhabit the project site or the immediate vicinity.

As open areas are fragmented by urban encroachment, free movement of animals between areas of suitable habitat may become increasingly restricted. The site is likely to be used by urban-adopted wildlife such as birds, rodents, and small mammals for movement and foraging. The creek is the primary area where wildlife movement is unobstructed through the area. Development of the site with a new single-family residence would not preclude this use. The proposed Parcel A building envelope is located 75 feet away from the outer edge of the oak woodland riparian forest, and more than 260 feet from the creek top of bank.

A new storm drain is proposed to remedy an existing erosion problem caused by stormwater flows from Eucalyptus Hill Road that enter the site and drain down into the creek. A rock rip-rap energy dissipater would be constructed at the terminus of the new drainage pipe near the creek bed in order to minimize erosion from the water existing the storm drain. Construction of this facility would result in disturbance and vegetation removal within the creek's riparian habitat. Proposed work related to the storm drain would require a Streambed Alteration Agreement from the California Department of Fish and Game and may require permits from U.S. Army Corps of Engineers and Regional Water Quality Control Board. Impacts to native vegetation and creek habitat associated with construction of a new residence and installation of the storm drain are considered potentially significant, mitigable. Mitigation Measures B-1 through B-3 are required to reduce the biological impacts associated with the project to a less than significant level.

A total of 53 trees will be removed from Parcel A, including three coast live oak saplings. Short-term wildlife habitat alteration/loss impacts are expected within the building envelope and along the proposed storm drain pipe alignment.

Although not a significant impact due the existing high level of human presence in the area, increased noise and light from the future residence has the potential to disrupt wildlife. To further reduce this less than significant impact, a mitigation measure is recommended to address lighting impacts (see Mitigation Measure A-3).

Project grading and future construction could result in the introduction of sediment and pollutants such as oil, paint or concrete into the creek. The incorporation of erosion control measures and designation of concrete washing locations to preclude runoff into the creek would ensure that impacts remain less than significant. See mitigation measure W-2.

3.b) Specimen Trees

Mature native and non-native specimen trees provide numerous benefits to the environment, including visual beauty, shade, soil stability, air quality, and localized habitat for urban-adapted wildlife species, such as birds. No impacts to

locally designated historic, Landmark or specimen trees would occur as a result of the proposed project since no such resources exist on the site. See biological resources discussion a) and c) for other issues associated with tree removal.

3.d) Wetland Habitat

The Master Environmental Assessment (MEA) identifies the site as Southern Oak Woodland and Coastal Sage Scrub. The site is within a developed neighborhood; however, it contains a creek and associated habitat. There are also many oak trees throughout the site.

Fifty-three trees will be removed as part of the proposed development of the site, including removal for compliance with High Fire Hazard Vegetation Management guidelines. The value of the habitat proposed for removal is limited because most of the vegetation in this area is non-native and located near Eucalyptus Hill Road and residences. One 6.8" diameter oak tree is proposed for removal. Two oak saplings that are less than 4" in diameter are also proposed for removal. These oaks are not from within the oak woodland habitat area. City policy requires oak replacement on at least a one-to-one ratio, up to a ten-to-one ratio. Mitigation to replace these oaks is recommended to further reduce this less than significant impact (B-4).

The new storm drain is proposed to run underground for 160 linear feet and then aboveground for 260 linear feet. Approximately 130 linear feet of the aboveground portion of the pipe will be located within the existing dirt access road. In the area of the access road, no trees are required to be removed to accommodate the new storm drain. The lower portion of the aboveground pipe will go through a relatively undisturbed area. It will be possible to avoid all native trees because the pipe will be aboveground. The storm drain pipe will then outlet into a small rock rip-rap energy dissipater. All work associated with this part of the project will be done by hand, thereby limiting disturbance.

Biological Resources – Mitigation

- B-1 Riparian Habitat Protection (Short-Term).** Temporary construction fencing shall be installed six feet away from the outer edge of the riparian oak tree canopy. The fencing shall be installed prior to any grading on site and shall be maintained throughout duration of construction activities.
- B-2 Riparian Habitat Protection (Long-Term).** A 25-foot wide outer riparian buffer zone shall be established from the edge of the oak riparian woodland. The existing non-native trees and shrubs in this outer buffer zone should be removed and the area landscaped with compatible native vegetation. Plants listed by the California Invasive Plant Council as Red Alert or List A invasive plant should not be used.
- B-3 Outside Agency Permits.** Prior to issuance of a building permit, the applicant shall obtain permits, or evidence of exemption from permits, from the Department of Fish and Game (a Streambed Alteration Agreement), U.S. Army Corps of Engineers and Regional Water Quality Control Board, for grading and installation of drainage devices within the banks of the creek.

Biological Resources – Recommended Mitigation

- B-4 Oak Tree Replacement.** A replacement plan for the three Coast Live Oaks to be removed shall be included in the landscape plans for Parcel A or B to be reviewed and approved by the Architectural board of Review. Replacement oaks shall be the same species as those removed. The replacement rate shall be at least one-to-one.
- B-5 Storm Drain Alignment.** The alignment of the aboveground storm drain pipe shall be staked prior to installation for review by City staff and other permitting agencies. Alignment shall avoid all native trees and shall minimize removal of mature vegetation.

Biological Resources - Residual Impacts

Implementation of the identified mitigation measure would reduce impacts to biological resources to a less than significant level.

4. CULTURAL RESOURCES Could the project:	NO	YES <i>Level of Significance</i>
a) Disturb archaeological resources?	X	
b) Affect a historic structure or site designated or eligible for designation as a National, State or City landmark?	X	
c) Have the potential to cause a physical change which would affect ethnic cultural values or restrict religious uses in the project area?	X	

Cultural Resources - Discussion

Issues: Archaeological resources are subsurface deposits dating from Prehistoric or Historical time periods. Native American culture appeared along the channel coast over 10,000 years ago, and numerous villages of the Barbareno Chumash flourished in coastal plains now encompassed by the City. Spanish explorers and eventual settlements in Santa Barbara occurred in the 1500's through 1700's. In the mid-1800's, the City began its transition from Mexican village to American city, and in the late 1800's through early 1900's experienced intensive urbanization. Historic resources are above-ground structures and sites from historical time periods with historic, architectural, or other cultural importance. The City's built environment has a rich cultural heritage with a variety of architectural styles, including the Spanish Colonial Revival style emphasized in the rebuilding of Santa Barbara's downtown following a destructive 1925 earthquake.

Impact Evaluation Guidelines: Archaeological and historical impacts are evaluated qualitatively by archeologists and historians. First, existing conditions on a site are assessed to identify whether important or unique archaeological or historical resources exist, based on criteria specified in the State CEQA *Guidelines* and City Master Environmental Assessment *Guidelines for Archaeological Resources and Historical Structures and Sites*, summarized as follows:

- Contains information needed to answer important scientific research questions and there exists a demonstrable public interest in that information.
- Has a special and particular quality such as being the oldest of its type or the best available example of its type.
- Is directly associated with an important prehistoric or historic event or person.

If important archaeological or historic resources exist on the site, project changes are evaluated to determine whether they would substantially affect these important resources.

Cultural Resources – Existing Conditions and Project Impacts

4.a) Archaeological Resources

The project site is located within a prehistoric watercourse area and thus considered to have the potential for archaeological resources to be present. A Phase I archaeological survey of the site was conducted in 2005. No resources were identified onsite and the report concluded that no further analysis or monitoring during construction was required.

4.b) Historic Resources

The project site is currently vacant. No impacts to historical resources would occur as a result of the proposed project.

4.c) Ethnic/Religious Resources

There is no evidence that the site involves any ethnic or religious use or importance. The project would have no impact on historic, ethnic or religious resources.

Cultural Resources – Mitigation

No mitigation is required.

5. GEOPHYSICAL CONDITIONS Could the project result in or expose people to:	NO	YES <i>Level of Significance</i>
a) Seismicity: fault rupture?		Less than Significant
b) Seismicity: ground shaking or liquefaction?		Less than Significant
c) Seismicity: seiche or tsunami?	X	
d) Landslides or mudslides?		Less than Significant
e) Subsidence of the land?		Less than Significant
f) Expansive soils?		Potentially Significant, Mitigable
g) Excessive grading or permanent changes in the topography?		Less than Significant

Geophysical Conditions - Discussion

Issues: Geophysical impacts involve geologic and soil conditions and their potential to create physical hazards affecting persons or property; or substantial changes to the physical condition of the site. Included are earthquake-related conditions such as fault rupture, ground-shaking, liquefaction (a condition in which saturated soil loses shear strength during earthquake shaking); or seismic sea waves; unstable soil or slope conditions, such as landslides, subsidence, expansive or compressible/collapsible soils; or erosion; and extensive grading or topographic changes.

Impact Evaluation Guidelines: Potentially significant geophysical impacts may result from:

- Exposure to or creation of unstable earth conditions due to seismic conditions, such as earthquake faulting, groundshaking, liquefaction, or seismic waves.
- Exposure to or creation of unstable earth conditions due to geologic or soil conditions, such as landslides, settlement, or expansive, collapsible/compressible, or expansive soils.
- Extensive grading on slopes exceeding 20%, substantial topographic change, destruction of unique physical features; substantial erosion of soils, overburden, or sedimentation of a water course.

Geophysical Conditions – Existing Conditions and Project Impacts

5.a-c) Seismic Hazards

Fault Rupture: A Fault Conditions Report was prepared for the site by CFS Geotechnical Consultants, Inc. (August 9, 2002). The Sycamore Fault is the nearest mapped fault to the project site. It is located just south of the Eucalyptus Hill/Alameda Padre Serra intersection, approximately 200-400 feet north of the proposed building envelope. In the opinion of the Geologist, there is a relatively low potential for a future earthquake to occur on this fault because of its short length and the date of last movement. Therefore, there would be a low potential to experience surface fault rupture in association with an earthquake on the Sycamore fault. Fault rupture impacts are considered *less than significant*.

Ground Shaking and Liquefaction: The project site is located in a seismically active area of southern California. Significant ground shaking as a result of a local or regional earthquake is likely to occur during the life of the project. The site is considered to be minimally susceptible to liquefaction in the event of a strong earthquake. The potential for ground shaking is considered a *less than significant* impact. Future development would be required to comply with building code requirements that would minimize potential hazards associated with ground shaking.

Seiche or Tsunami: The project site is not located within the tsunami run-up zone as identified in the City's Master Environmental Assessment. The project site is not subject to seiche hazards because of its distance from potential seiche hazard areas (i.e. open bodies of water and the harbor). Impacts are *not considered to be significant*.

5.d-f) Geologic or Soil Instability

Landslides: The project site has relatively steep slopes, but is not identified as subject to landslide hazards on the City's MEA map.

Subsidence: The potential for subsidence on the site is considered low, and impacts are considered less than significant.

Expansive Soils: As shown on the City's MEA, the site is subject to moderately high expansive clay soil. The Preliminary Foundation Investigation performed by Pacific Materials laboratory (November 12, 2004) identified the soil as a dark brown expansive clay covering the top 3-7 feet of the surface soil. Below the expansive clay is a tan stiff clay and white shale. The clay surface is prone to creep and instability. Mitigation is identified to reduce this *potentially significant* impact to less than significant.

5.g) Topography; Grading

Grading: Site grading would include excavation and replacement of artificial fill. The amount of earthwork required for grading is estimated at 1,150 cubic yards of cut and fill. Finish grading for a future residence would also be required at a later date, and would be based on the final design of that future residence. No estimates are currently provided. City policies with regard to hillside grading and development would be applicable to the new residence and discourage unnecessary grading and landform alteration. The currently proposed grading would not result in a significant alteration of the natural landform or substantially change the existing topography of the site. A portion of the proposed grading is to remove a service road down to the creek that was never permitted and to restore the natural topography of the hillside. These are considered beneficial aspects of the project overall. Impacts from grading and topographical changes are considered *less than significant*.

Geophysical Conditions - Mitigation

G-1 Grading and Foundation Recommendations. Site preparation, grading and project construction related to soil conditions shall be in accordance with the recommendations contained in the Preliminary Foundation Investigation prepared by Pacific Materials Laboratory, dated November 12, 2004. Compliance shall be demonstrated on plans submitted for grading and/or building permits for both Phase 1 and Phase 2.

Geophysical Conditions – Residual Impacts

Implementation of the required site preparation and structural design measures would mitigate potential geologic hazards associated with grading to less than significant levels.

6. HAZARDS Could the project involve:	NO	YES <i>Level of Significance</i>
a) A risk of accidental explosion or release of hazardous substances (including, but not limited to: oil, pesticides, chemicals or radiation)?	X	
b) The creation of any health hazard or potential health hazards?	X	
c) Exposure of people to existing sources of potential health hazards?		Less than Significant
d) Increased fire hazard in areas with flammable brush, grass, or trees?		Potentially Significant, Mitigable

Hazards - Discussion

Issues: Hazardous materials issues involve the potential for public health or safety impacts from exposure of persons or the environment to hazardous materials or risk of accidents involving combustible or toxic substances.

Impact Evaluation Guidelines: Significant impacts may result from the following:

- Siting of incompatible projects in close proximity to existing sources of safety risk, such as pipelines, industrial processes, railroads, airports, etc.
- Exposure of project occupants or construction workers to unremediated soil or groundwater contamination.
- Exposure of persons or the environment to hazardous substances due to improper use, storage, or disposal of hazardous materials.

- Siting of development in a high fire hazard areas or beyond adequate emergency response time, with inadequate access or water pressure, or otherwise in a manner that creates a fire hazard

Hazards – Existing Conditions and Project Impacts

6.a,b,c) Public Health and Safety

The project site has no known contamination and is not listed on the County Fire Department Hazardous Materials parcel listings. The project site is not located close to sources of public safety or health hazards, such as pipelines. Hazardous materials use and storage would be limited to small amounts of common household, automotive, and gardening supplies, such as cleansers, paint, motor oil, and pesticides. *Less than significant impacts* due to the use of oils, paint, and cleaners during construction activities would be present during development of a single family residence on this property.

6.d) Fire Hazard

The project site is located in the High Fire Hazard area, and development of a new residence constitutes a *potentially significant but mitigable impact*. The proposed project's landscape plans would comply with City high fire hazard area requirements for access, construction (access), water availability, and vegetation brush management, with application of vegetation landscape and management zones around developable areas. Table 1 below identifies what generally can and cannot be planted within the various landscape and management zones. The City also has vacant lot standards that would be applicable to the newly created lot until such time as a residence is constructed. Because the parcel has slopes greater than 20%, fuel management would be required up to 200 feet from Parcel A's development. Most of the vegetation required to be removed or trimmed is non-native. Short- and long-term impacts to biological resources are considered less than significant, and are fully analyzed in Section 3, "Biological Resources". Compliance with the City's high fire hazard requirements for brush maintenance and landscape design are identified as mitigation to reduce project related fire hazard impacts to a *less than significant* level.

Table 1: Recommendations for Plant Placement in the High Fire Hazard Area

ZONE 1 0 – 30 feet	This area is closest to a structure. It provides the best protection against the high radiant heat that results during a wildfire. Plants should be low growing, irrigated plants. Focus should be on ground covers not more than 12 inches in height or succulents. Use non-flammable materials for paths, patios, and mulch. Trees should not be planted closer than 15 feet to a structure.
ZONE 2 30 – 50 feet	Maintain a reasonably open character in this area. Plant low growing ground covers and succulents resistant to fire. Shrubs up to 3 feet can be planted but should have at least 18 feet spacing between other shrubs or other trees. Shrubs can be planted in clusters not more than 10 feet in diameter, but should have at least 18 feet between clusters. Do not plant shrubs underneath tree canopies. Trees should be spaced at least 30 feet apart to prevent crowns from touching once fully grown.
ZONE 3 50 – 70 feet	This area should have native and Mediterranean plantings that require irrigation and should not be higher than 4 to 6 feet. Shrubs should be spaced at least 18 feet away from each other. Shrubs can be planted in clusters not more than 10 feet in diameter, but should have at least 18 feet between clusters. Trees should be spaced at least 30 feet apart to prevent crowns from touching once fully grown.
ZONE 4 70 – 100 feet or greater	This zone is furthest from the structure. Plantings once established need no irrigation. There is no limit to height. Shrubs planted in this area should have 18 feet spacing or be planted in clusters with at least 18 feet spacing. Trees can be planted in groups or with individual spacing at least 30 feet from other trees.
Slopes > 20%	Additional vegetation modification may be required.

Hazards – Mitigation

H-1 High Fire Vegetation Management. Residences located in the High Fire Hazard area are required to maintain vegetation to create an effective fuel break by thinning dense vegetation (mosaic style) and removing dry brush, flammable vegetation and combustible growth from areas within 100 feet of all buildings or structures. The owner shall perform the following maintenance annually for the life of the project.

- Cut and remove hazardous brush, shrubs, and flammable vegetation such as dry grass and weeds within 100 feet of any structure and within 2 inches of the ground.
- Thin brush from streets and driveways both horizontally and vertically along the property. Flammable vegetation must be cleared on each side of the street or driveway for a distance of 10 feet and a vertical distance of 13 feet, 6 inches. Vegetation must be cut to within 2 inches of the ground. This applies to the public or private driveway and any public or private streets that border the property.

- Remove dead wood, trim the lower branches, and limb all live trees to 6 feet above the ground (or as much as possible with younger, smaller trees), especially trees adjacent to buildings.
- Trim tree limbs back a minimum distance of 10 feet from any chimney opening.
- Remove all dead trees from the property.
- Maintain the roof of all structures free of leaves, needles or other vegetative debris.
- Legally dispose of all cut vegetation, including any debris left from previous tree trimming and brush removal. Cut vegetation may be chipped and spread throughout the property as a ground cover, up to 12 inches in depth, and at least 30 feet from any structure.

H-2 Landscape Plan. The landscape plan shall adhere to the Fire Department Landscape Guidelines for properties than are in the high fire hazard area. These plans shall be reviewed and approved by the Architectural Board of Review and the Fire Department.

Hazards – Residual Impacts

Compliance with local requirements for high fire hazard areas would ensure wildfire hazard impacts of the proposed project are less than significant.

7. NOISE Could the project result in:	NO	YES <i>Level of Significance</i>
a) Increases in existing noise levels?	X	
b) Exposure of people to severe noise levels?		Less than Significant

Noise - Discussion

Issues: Noise issues are associated with siting of a new noise-sensitive land use in an area subject to high ambient background noise levels, siting of a noise-generating land use next to existing noise-sensitive land uses, and/or short-term construction-related noise.

The primary source of ambient noise in the City is vehicle traffic noise. The City Master Environmental Assessment (MEA) *Noise Contour Map* identifies average ambient noise levels within the City.

Ambient noise levels are determined as averaged 24-hour weighted levels, using the Day-Night Noise Level (L_{dn}) or Community Noise Equivalence Level (CNEL) measurement scales. The L_{dn} averages the varying sound levels occurring over the 24-hour day and gives a 10 decibel penalty to noises occurring between the hours of 10:00 p.m. and 7:00 a.m. to take into account the greater annoyance of intrusive noise levels during nighttime hours. Since L_{dn} is a 24-hour average noise level, an area could have sporadic loud noise levels above 60 dB(A) which average out over the 24-hour period. CNEL is similar to L_{dn} but includes a separate 5 dB(A) penalty for noise occurring between the hours of 7:00 p.m. and 10:00 p.m. CNEL and L_{dn} values usually agree with one another within 1 dB(A). The Equivalent Noise Level (L_{eq}) is a single noise level, which, if held constant during the measurement time period, would represent the same total energy as a fluctuating noise. L_{eq} values are commonly expressed for periods of one hour, but longer or shorter time periods may be specified. In general, a change in noise level of less than three decibels is not audible. A doubling of the distance from a noise source will generally equate to a change in decibel level of six decibels.

Guidance for appropriate long-term background noise levels for various land uses are established in the City General Plan Noise Element Land Use Compatibility Guidelines. Building codes also establish maximum average ambient noise levels for the interiors of structures.

High construction noise levels occur with the use of heavy equipment such as scrapers, rollers, graders, trenchers and large trucks for demolition, grading, and construction. Equipment noise levels can vary substantially through a construction period, and depend on the type of equipment, number of pieces operating, and equipment maintenance. Construction equipment generates noise levels of more than 80 or 90 dB(A) at a distance of 50 feet, and the shorter impulsive noises from other construction equipment (such as pile drivers and drills) can be even higher, up to and exceeding 100 dB(A). Noise during construction is generally intermittent and sporadic, and after completion of the initial

demolition, grading and site preparation activities, tends to be quieter.

The Noise Ordinance (Chapter 9.16 of the Santa Barbara Municipal Code) governs short-term or periodic noise, such as construction noise, operation of motorized equipment or amplified sound, or other sources of nuisance noise. The ordinance establishes limitations on hours of construction and motorized equipment operations, and provides criteria for defining nuisance noise in general.

Impact Evaluation Guidelines: A significant noise impact may result from:

- Siting of a project such that persons would be subject to long-term ambient noise levels in excess of Noise Element land use compatibility guidelines as follows (**Use applicable land uses**):
 - Residential: Normally acceptable maximum exterior ambient noise level of 60 dB(A); maximum interior noise level of 45 dB(A).
- Substantial noise from grading and construction activity in close proximity to noise-sensitive receptors for an extensive duration.

Noise – Existing Conditions and Project Impacts

7.a-b) Increased Noise Level; Exposure to High Noise Levels

Long-Term Operational Noise:

The project site is located in an area subject to average ambient noise levels from roadway noise of less than 60 dBA, as shown on the City's Master Environmental Assessment noise contour maps. The Noise Element establishes 60 dBA as the acceptable exterior noise level for residential uses. No substantial noise generation is anticipated to occur as a result of the proposed residential use. Therefore, the project site would not be subject to high noise levels, nor would the project cause high operational noise levels. Long-term operational noise impacts would be *less than significant*.

Temporary Construction Noise:

Noise during construction is generally intermittent and sporadic, and after completion of initial grading and site clearing activities, tends to be quieter. Noise generated during project grading activities would result in a short-term adverse construction impact to residential receptors in the area. Construction of the residence is anticipated to result in use of heavy equipment. Construction noise is limited by City ordinance to the hours between 7:00 a.m. and 8:00 p.m. daily for noise generating activities that would increase noise levels at the nearest residential property line by 5 decibels. The project is limited in scope and the potential impact due to construction noise would be *less than significant*. However, the level of potential adverse effect would be further reduced through recommended measures below, including construction scheduling, further limiting grading activities to daytime hours on weekdays, and use of equipment mufflers.

Noise – Recommended Mitigation

N-1 Construction Hours. Noise-generating construction activities associated with Phase 1 of the project (which may include preparation for construction work) shall be permitted weekdays between the hours of 8:00 a.m. and 5:00 p.m., excluding holidays observed by the City as legal holidays: New Year's Day (January 1st); Martin Luther King Jr.'s Birthday (3rd Monday in January); President's Day (3rd Monday in February); Memorial Day (Last Monday in May); Independence Day (July 4th); Labor Day (1st Monday in September); Thanksgiving Day (4th Thursday in November); Day Following Thanksgiving Day (Friday following Thanksgiving); Christmas Day (December 25th). *When a holiday falls on a Saturday or Sunday, the preceding Friday or following Monday respectively shall be observed as a legal holiday.

Occasional night work may be approved for the hours between 5 p.m. and 8 a.m. by the Chief of Building and Zoning (per Section 9.16.015 of the Municipal Code) between the hours of 5 p.m. and 8 a.m. weekdays. In the event of such night work approval, the applicant shall provide written notice to all property owners and residents within 450 feet of the project property boundary and the City Planning and Building Divisions at least 48 hours prior to commencement of any. Night work shall not be permitted on weekends and holidays.

N-2: Construction Equipment Sound Control. All construction equipment, including trucks, shall be professionally maintained and fitted with standard manufacturers' muffler and silencing devices.

Noise – Residual Impact

Impacts associated with long and short term noise sources are considered *less than significant*. Recommended mitigation measures would minimize the nuisance associated with construction noise.

8. POPULATION AND HOUSING Could the project:	NO	YES Level of Significance
a) Induce substantial growth in an area either directly or indirectly (e.g. through projects in an undeveloped area or extension of major infrastructure)?	X	
b) Displace existing housing, especially affordable housing?	X	

Population and Housing - Discussion

Impact Evaluation Guidelines: Issues of potentially significant population and housing impacts may involve:

- Growth inducement, such as provision of substantial population or employment growth or creation of substantial housing demand; development in an undeveloped area, or extension/ expansion of major infrastructure that could support additional future growth.
- Loss of a substantial number of housing units, especially loss of more affordable housing.

Population and Housing – Existing Conditions and Project Impacts

8.a) Growth-Inducing Impacts

The project site is located in an existing developed area already served by urban infrastructure. Only one new residential unit would be permitted upon this subdivision. No extensions of infrastructure or urban services would be necessary to serve the project site. The proposed residential units are intended to meet existing demand for ownership housing units within the community and would not induce growth. Growth inducing impacts as a result of the project would be less than significant.

8.b) Housing Displacement

The project would not involve any housing displacement. No impact would result from the project.

Population and Housing - Mitigation

No mitigation is required.

9. PUBLIC SERVICES Could the project have an effect upon, or result in a need for new or altered services in any of the following areas:	NO	YES <i>Level of Significance</i>
a) Fire protection?		Less than Significant
b) Police protection?		Less than Significant
c) Schools?		Less than Significant
d) Maintenance of public facilities, including roads?		Less than Significant
e) Other governmental services?		Less than Significant
f) Electrical power or natural gas?		Less than Significant
g) Water treatment or distribution facilities?		Less than Significant
h) Sewer or septic tanks?		Less than Significant
i) Water distribution/demand?		Less than Significant
j) Solid waste disposal?		Less than Significant

Public Services - Discussion

Issues: This section evaluates project effects on fire and police protection services, schools, road maintenance and other governmental services, utilities, including electric and natural gas, water and sewer service, and solid waste disposal.

Impact Evaluation Guidelines: The following may be identified as significant public services and facilities impacts:

- Creation of a substantial need for increased police department, fire department, road maintenance, or government services staff or equipment.
- Generation of substantial numbers of students exceeding public school capacity where schools have been designated as overcrowded.
- Inadequate water, sewage disposal, or utility facilities.
- Substantial increase in solid waste disposal to area sanitary landfills.

Public Services – Existing Conditions and Project Impacts

9a-b,d-g. Facilities and Services

The project site is located in an urban area where all public services are available. In 2005, the City prepared a General Plan Update: 2030 Condition, Trends, and Issues (CTI) Report (September 2005) that examined existing conditions associated with fire protection, police protection, library services, public facilities, governmental facilities, electrical power, and natural gas. The CTI Report specifically analyzed whether there were deficiencies existing or anticipated for each of the public services. The CTI report determined that police and fire protection services, and library services are being provided at acceptable levels to the City. In addition, the CTI Report determined that electricity, natural gas, telephone, and cable telecommunication services are being provided at acceptable service levels and utility companies did not identify any deficiencies in providing service in the future. Finally, the CTI Report determined that demand for City buildings and facilities will continue to be impacted by growth, although no appropriate/acceptable levels of service have been established.

The project would be served with connections to existing public services for gas, electricity, cable, and telephone traversing the site, as well as access to existing roads. The project is not anticipated to create a substantially different demand on fire or police protection services, library services, or City buildings and facilities than that anticipated in the CTI Report. Therefore, impacts to fire protection, police protection, library services, City buildings and facilities, electrical power, natural gas, telephone, and cable telecommunication services are anticipated to be less than significant.

9.c) Schools

The project site is served by the Santa Barbara Elementary and High School Districts for elementary and high school. The project has the potential to generate additional students; however, not to a degree that would impact area schools.

None of the school districts in the South Coast have been designated "overcrowded" as defined by California State law. School impact fees would be applied to the project in accordance with State law. Project impacts to schools would be less than significant.

9.h,i) Water and Sewer

Water

The City of Santa Barbara's water supply comes from the following sources, with the actual share of each determined by availability and level of customer demand: Cachuma Reservoir and Tecolote Tunnel, Gibraltar Reservoir and Mission Tunnel, 300 Acre Feet per Year (AFY) of contractual transfer from Montecito Water district, groundwater, State Water Project entitlement, desalination, and recycled water. Conservation and efficiency improvements are projected to contribute to the supply by displacing demand that would otherwise have to be supplied by additional sources. In 1994, based on the comprehensive review of the City's water supply in the Long Term Water Supply Alternatives Analysis (LTWSAA), the City Council approved the Long Term Water Supply Program (LTWSP). The LTWSP outlines a strategy to use the above sources to meet the City's projected demand of 17,900 AFY (including 1,500 AFY of demand projected to be met with conservation) plus a 10 percent safety margin for a total of 19,700 AFY. Therefore, the target for the amount of water the system will actually have to supply, including the safety margin, is 18,200 AFY. The 2003 Water Supply Management Report documents an actual system demand of 13,460 AFY and a theoretical commitment of 16,170 AFY. Of the total system production, 95% was potable water and 5% was reclaimed water.

In 2005, the City prepared a General Plan Update: 2030 Condition, Trends, and Issues (CTI) Report (September 2005) that examined existing conditions associated with water supply, treatment, and distribution system, and specifically analyzed and determined that there were no existing or anticipated deficiencies for the next 20-year planning period based on a growth rate of 0.7% per year.

The existing development on the site receives water service from the City of Santa Barbara water supply, treatment, and distribution system. The proposed project is estimated to demand 0.28 AFY of potable water. The proposed project is within the anticipated growth rate for the City and therefore, the City's long-term water supply and existing water treatment and distribution facilities would adequately serve the proposed project. The potential increase in demand would constitute a less than significant impact to the City water supply.

Sewer

The project site is currently served by City sewer system. The project would include one new residence, which is estimated to generate 217 gallons/day or 0.24 AFY (87% of water demand). The maximum capacity of the El Estero Treatment Plant is 11 million gallons per day (MGD), with current average daily flow 8.5 MGD. The Treatment Plant is designed to treat the wastewater from a population of 104,000. Increased sewage treatment associated by the project can be accommodated by the existing City sewer system and sewage treatment plant, and would represent a less than significant impact.

9.j) Solid Waste Generation/ Disposal

Most of the waste generated in the City is transported on a daily basis to seven landfills located around the County. The County of Santa Barbara, which operates the landfills, has developed impact significance thresholds related to the impacts of development on remaining landfill capacity. The County thresholds are based on the projected average solid waste generation for Santa Barbara County from 1990-2005. The County assumes a 1.2% annual increase (approximately 4000 tons per year) in solid waste generation over the 15-year period.

The County's threshold for project specific impacts to the solid waste system is 196 tons per year (this figure represents 5% of the expected average annual increase in solid waste generation [4000 tons/year]). Source reduction, recycling, and composting can reduce a project's waste stream by as much as 50%. If a proposed project generates 196 or more tons per year (TPY) after reduction and recycling efforts, impacts would be considered significant and unavoidable.

Proposed projects with a project specific impact as identified above (196 tons/year or more) would also be considered cumulatively significant, as the project specific threshold of significance is based on a cumulative growth scenario. However, as landfill space is already extremely limited, any increase in solid waste of 1% or more of the expected average annual increase in solid waste generation [4000 tons/year], which equates to 40 TPY, is considered an adverse cumulative impact.

Using methodology and factors found in the County's Environmental Thresholds and Guidelines Manual (1995), the annual generation of the proposed project is calculated below:

Existing land use on the site generates an estimated 2.52 TPY of solid waste (2.65 people/unit x 1 unit x 0.95 TPY/person = 2.52 TPY), and the site is served by recycling pick up.

The proposed project would generate an additional 2.52 TPY of solid waste (2.65 people/unit x 1 unit x 0.95 TPY/person = 2.52 TPY) (1.26 TPY with source reduction and recycling).

Net project generation of 2.52 TPY solid waste is considered a less than significant project-specific impact and contribution to cumulative impact.

Short-Term (Demolition and Construction). Project grading may require some import of non-structural fill. Construction-related waste generation would be short-term and less than significant.

Public Services –Mitigation

No mitigation is required.

10. RECREATION		NO	YES
Could the project:			<i>Level of Significance</i>
a)	Increase the demand for neighborhood or regional parks or other recreational facilities?		Less than Significant
b)	Affect existing parks or other public recreational facilities?	X	

Recreation - Discussion

Issues: Recreational issues are associated with increased demand for recreational facilities, or loss or impacts to existing recreational facilities.

Impact Evaluation Guidelines: Recreation impacts may be significant if they result in:

- Substantial increase in demand for park and recreation facilities in an area under-served by existing public park and recreation facilities.
- Substantial loss or interference with existing park space or other public recreational facilities such as hiking, cycling, or horse trails.

Recreation – Existing Conditions and Project Impacts

10.a) Recreational Demand

Currently within the City there are more than 1,800 acres of natural open space, park land and other recreational facilities. In addition, there are 28 tennis courts, 2 public outdoor swimming pools, beach volleyball courts, sport fields, lawn bowling greens, a golf course, 13 community buildings and a major skateboard facility. The City also offers a wide variety of recreational programs for people of all ages and abilities in sports, various classes, tennis, aquatics and cultural arts.

In 2005, the City prepared a General Plan Update: 2030 Condition, Trends, and Issues (CTI) Report (September 2005) that examined existing conditions associated with recreation and parks. Population characteristics including income, age, population growth, education and ethnicity affect recreation interests and participation levels.

The CTI Report determined that there is an uneven distribution of parkland in the City, such that some areas of the City may currently be underserved with neighborhood parks, but overall the City has adequate passive, community, beach, regional, open space, and sports facility parks.

The National Recreation and Park Association has established park service area standards for various types of parks. The NRPA standards have not been adopted by the City; however, the standards do provide a useful tool for assessing park space needs. The CTI Report determined that, based on NRPA standards, there is an uneven distribution of parkland in the City, such that some areas of the City may currently be underserved with neighborhood and community parks, but overall the City has adequate passive, community, beach, regional, open space, and sports facility parks.

The future development of the proposed parcel with a new residence would create a very minor increase in the demand for park and recreational opportunities. As indicated above, the City of Santa Barbara has ample parkland, albeit unevenly distributed throughout the City, and adequate recreation facilities. The proposed project would introduce additional residents into the Eucalyptus Hill neighborhood where existing nearby parks include Eastside Neighborhood Park, Hale Park and Sunflower Park. None of the above referenced neighborhood parks are within the NRPA ¼ to ½-mile radius standard of the proposed project site. Residents of the proposed project would have access to these neighborhood parks, although somewhat less conveniently than if located within the NRPA standard distance. In addition, residents would have access to other community, beach, regional, open space, and sports facility parks, and all City recreation programs. Therefore, the increase in park and recreational demands associated with the residences would be a less than significant impact.

10.b) Existing Recreational Facilities

As described above, the proposed project is not within close proximity of either neighborhood or community parks. The proposed residential use would not interfere or cause a substantial loss of use of existing parks or recreational facilities by means of obnoxious or offensive emission of odors, dust, gas, fumes, smoke, liquids, wastes, noise, vibrations, or disturbances. Therefore, the project would have no impact on recreational facilities.

Recreation - Mitigation

No mitigation is required.

11. TRANSPORTATION/CIRCULATION		NO	YES
Could the project result in:			<i>Level of Significance</i>
a)	Increased vehicle trips?		Less than Significant
b)	Hazards to safety from design features (e.g. sharp curves, inadequate sight distance or dangerous intersections)?	X	
c)	Inadequate emergency access or access to nearby uses?	X	
d)	Insufficient parking capacity on-site or off-site?	X	
e)	Hazards or barriers for pedestrians or bicyclists?	X	

Transportation - Discussion

Issues: Transportation issues include traffic, access, circulation, safety, and parking. Vehicle, bicycle and pedestrian, and transit modes of transportation are all considered, as well as emergency vehicle access. The City General Plan Circulation Element contains policies addressing circulation, traffic, and parking in the City.

Impact Evaluation Guidelines: A proposed project may have a significant impact on traffic/ circulation/ parking if it would:

Vehicle Traffic

- Cause an increase in traffic that is substantial in relation to the existing traffic load and street system capacity (see traffic thresholds below).
- Cause insufficiency in transit system.
- Conflict with the Congestion Management Plan (CMP) or Circulation Element or other adopted plan or policy pertaining to vehicle or transit systems.

Circulation and Traffic Safety

- Create potential hazards due to addition of traffic to a roadway that has design features (e.g., narrow width, roadside ditches, sharp curves, poor sight distance, inadequate pavement structure) or that supports uses that would be incompatible with substantial increases in traffic.
- Diminish or reduce safe pedestrian and/or bicycle circulation.

- Result in inadequate emergency access on-site or to nearby uses.

Parking

- Result in insufficient parking capacity for the projected amount of automobiles and bicycles.

Traffic Thresholds of Significance: The City uses Levels of Service (LOS) “A” through “F” to describe operating conditions at signalized intersections in terms of volume-to-capacity (V/C) ratios, with LOS A (0.50-0.60 V/C) representing free flowing conditions and LOS F (0.90+ V/C) describing conditions of substantial delay. The City General Plan Circulation Element establishes the goal for City intersections to not exceed LOS C (0.70-0.80 V/C).

For purposes of environmental assessment, LOS C at 0.77 V/C is the threshold Level of Service against which impacts are measured. An intersection is considered “impacted” if the volume to capacity ratio is .77 V/C or greater.

Project-Specific Significant Impact: A project-specific significant impact results when:

- (a) Project peak-hour traffic would cause a signalized intersection to exceed 0.77 V/C, or
- (b) The V/C of an intersection already exceeding 0.77 V/C would be increased by 0.01 (1%) or more as a result of project peak-hour traffic.

For non-signalized intersections, delay-time methodology is utilized in evaluating impacts.

Significant Cumulative Contribution: A project would result in a significant contribution to cumulative traffic impacts when:

- (a) Project peak-hour traffic together with other cumulative traffic from existing and reasonably foreseeable pending projects would cause an intersection to exceed 0.77 V/C, or
- (b) Project would contribute traffic to an intersection already exceeding 0.77 V/C.

Transportation – Existing Conditions and Project Impacts

11.a) Traffic

Long-Term Traffic

The project site is located in the Eucalyptus Hill neighborhood and is accessed from Eucalyptus Hill Road off of Clifton Street, Alameda Padre Serra, Cedar Lane, and Barker Pass Road. Milpas Street, located to the southwest of the site, is the closest arterial and provides access to the beach and Highway 101 to the south and many east-west connectors to the north. All the nearby intersections operate at an acceptable level, per City thresholds. The project is expected to generate approximately one p.m. peak hour trip and ten average daily trips. When these trips are added to the existing street network they would result in a less than significant impact to traffic.

Short-Term Construction Traffic

Based on the limited scope of the project, potential temporary construction related traffic impacts would not be significant. Standard mitigation measures are recommended to minimize adverse impacts to the neighborhood. These include restrictions on the hours permitted for construction trips and approval of routes for construction traffic.

11.b, e) Access/Circulation Hazards

Access drives meeting minimum City width and slope standards are proposed for the site. Adequate line of sight distance from this ingress/egress point has been provided. The applicant is also proposing to create a paved shoulder along the property frontage to provide a safe pedestrian area along the public street. No traffic safety impacts of the project have been identified.

11.c) Emergency Access

The Fire Department has reviewed the site plan for the proposed project and indicates that emergency access is adequate and access/distance from fire-fighting equipment to the proposed structures meets standards. No emergency access impacts of the project have been identified.

11.d.) Parking

No sharp curves, inadequate sight distance or dangerous intersections are present in this area. Parking for the future residence would be required to be a two-car garage on-site, consistent with City minimum requirements. No parking supply impacts on- or off-site have been identified.

Transportation – Recommended Mitigation

- T-1 Construction Traffic.** The haul routes for all construction-related trucks, three tons or more, entering or exiting the site, shall be approved by the Transportation Engineer. Construction-related truck trips shall not be scheduled during peak hours (7:00 a.m. to 9:00 a.m. and 4:00 p.m. to 6:00 p.m.) to help reduce truck traffic and noise on adjacent streets and roadways. The route of construction-related traffic shall be established to minimize trips through surrounding residential neighborhoods.
- T-2 Construction Parking.** Construction parking and vehicle/equipment/materials storage shall be provided as follows:
1. During construction, free parking spaces for construction workers shall be provided on-site.
 2. On-site or off-site storage shall be provided for construction materials, equipment, and vehicles. Storage of construction materials within the public right-of-way is prohibited.

Transportation – Residual Impact

Impacts associated with transportation/circulation are considered *less than significant*. Recommended mitigation measures would minimize the nuisance associated with construction traffic.

12. WATER ENVIRONMENT	NO	YES
Could the project result in:		<i>Level of Significance</i>
a) Changes in absorption rates, drainage patterns, or the rate and amount of surface runoff?		Potentially Significant, Mitigable
b) Exposure of people or property to water related hazards such as flooding?	X	
c) Discharge into surface waters?		Potentially Significant, Mitigable
d) Change in the quantity, quality, direction or rate of flow of ground waters?		Less than Significant
e) Increased storm water drainage?		Potentially Significant, Mitigable

Water – Discussion

Issues: Water resources issues include changes in offsite drainage and infiltration/groundwater recharge; storm water runoff and flooding; and water quality.

Impact Evaluation Guidelines: A significant impact would result from:

Water Resources and Drainage

- Substantially changing the amount of surface water in any water body or the quantity of groundwater recharge.
- Substantially changing the drainage pattern or creating a substantially increased amount or rate of surface water runoff that would exceed the capacity of existing or planned drainage and storm water systems.

Flooding

- Locating development within 100-year flood hazard areas; substantially altering the course or flow of flood waters or otherwise exposing people or property to substantial flood hazard

Water Quality

- Substantial discharge of sediment or pollutants into surface water or groundwater, or otherwise degrading water quality, including temperature, dissolved oxygen, or turbidity.

Water Resources – Existing Conditions and Project Impacts

12.a, d, e) Drainage and Surface Runoff Rate and Quality

Drainage from the site sheet flows to the south and the east. The site is within the Andre Clark Bird Refuge watershed. Drainage currently flows into Chelham Creek. The project includes construction of a curb drainage inlet to direct stormwater flows into the creek. Currently, the storm drain from Eucalyptus Hill Road outlets approximately 400 feet from the edge of the creek bank and is causing substantial erosion, which is degrading the water quality of the creek.

The site currently contains an asphalt driveway that runs from the existing driveway down to the creek. The proposed project would remove approximately 2,100 square feet of this asphalt paving from the site. The project also includes removal of a 715 square foot patio. New development on the site would include future development of a single-family residence in a 5,200 square foot building envelope and a driveway to access the future residence. Thus, the project has the potential to increase the amount of impermeable surface area on the site by approximately 2,385 square feet, which has the potential to increase the amount of surface water runoff from the property and decrease groundwater recharge. Based on the preliminary drainage calculations prepared by Flowers & Associates, Inc., the peak discharge from the site's tributary area for the 100 year storm event will increase by 0.36 CFS as a result of new impermeable area associated with the new residence.

As part of the proposed project, the applicant is proposing to install two 2,500-gallon below-ground cisterns beneath the Parcel A garage to retain the increased runoff. The cisterns would collect stormwater runoff from the new residence roof drains and slowly release the water to off-set the project's effect on peak discharge and groundwater recharge. A storm drain pipe is proposed to be installed to convey existing stormwater runoff to the creek. This runoff currently runs down the site into the creek causing erosion problems.

Development of the project would result in an increase in impervious surface coverage, so the change in quantity of water is considered potentially significant. The proposed drainage design would prevent an increase of stormwater runoff by retaining increased flows on site. By implementing adequate drainage facilities to reduce potential run-off to pre-development levels, the project would be consistent with the City's Storm Water Management Plan and potential impacts to run-off rates would be reduced to a less than significant level.

A rock rip rap dissipater would be constructed in the creek channel at the end of the storm drain pipe to minimize erosion from the storm drain. This will likely require permits from Public Works and the Department of Fish and Game, and possibly from the U.S. Army Corps of Engineers and Regional Water Quality Control Board (see mitigation measure B-3). The conceptual drainage design provided has been reviewed by the Building & Safety Division and generally meets City standards. Development of a final engineered design would be required prior to issuance of building permits. Mitigation Measure W-3 is recommended to ensure that the proposed drainage system continues to be maintained and functional.

No groundwater was encountered at a depth of 20 feet during exploratory boring as part of the soil analysis performed by Pacific Materials Laboratory. Therefore impacts to groundwater are considered less than significant.

12.b) Flooding

According to the FEMA Federal Flood Insurance Program Flood Insurance Rate Map for the City of Santa Barbara, the project site is not located within the 100-year floodplain or an area otherwise subject to flooding. According to the Flood Hazard Determination from Santa Barbara County Flood Control, there is no hazard zone associated with Chelham Creek. Flooding impacts are considered not significant.

12.c) Water Quality

Long-Term (Operational) Impacts. See 12.a, d, e above. The proposed building envelope is located 75 feet from the outer edge of the riparian oak woodland canopy. This distance provides an adequate buffer to ensure protection of water quality in the creek from the new residence. Installation of the new storm drain and energy dissipater will improve water quality by correcting the existing erosion problem. Therefore, impacts from discharge into surface waters would be less than significant, and may be considered beneficial.

Short-Term (Construction) Impacts. Project grading activities during Phase 1 and future construction of a residence have the potential to create erosion and sedimentation, which may result in a potentially significant, mitigable impact to water quality. With the implementation of an Erosion Control Plan, the potential for short-term water quality impacts due to erosion and sedimentation during grading and construction would be reduced to a less than significant level.

Water Resources - Mitigation

W-1 Drainage and Water Quality. Any increase in runoff above existing conditions shall be retained on site, consistent with the City's NPDES Guidelines. Runoff from the two cisterns should be directed into a bioswale-type area or landscape features such as planter beds and/or lawns to increase soil infiltration. Project plans for grading, drainage, stormwater facilities, and project development, shall be subject to review and approval by City Building Division and Public Works Department per City regulations. Sufficient engineered design and adequate measures shall be employed to ensure that no significant construction-related or long-term effects from increased runoff, erosion and sedimentation, urban water quality pollutants, or groundwater pollutants would result from the project. The Owner shall maintain the storm drain energy dissipater consistent with an approved maintenance plan. This plan shall be provided with the building plan submittal for review and approval by Community Development prior to approval of building permits.

W-2 Construction Erosion/Sedimentation Control Plan. Appropriate erosion/sediment control devices between the construction zone and adjacent areas shall be installed prior to initiation of grading or construction activities and shall be maintained throughout the duration of Phase 1 construction and again during construction of a future residence on the site as mitigation for short-term impacts to water quality from erosion and sedimentation. The applicant shall submit and obtain Building Division or Public Works Department approval of a detailed erosion control plan for the project prepared by a licensed or certified professional soil erosion and sediment control specialist, a California licensed civil engineer, landscape architect, registered geologist, or a licensed architect. The plan shall include Best Management Practices approved by the City and Regional Water Quality Control Board, and shall include, at a minimum, the following:

1. Minimize the area of bare soil exposed at one time (phased grading).
2. Install silt fence, sand bag, hay bale or silt devices where necessary around the project site to prevent offsite transport of sediment.
3. Bare soils shall be protected from erosion by applying heavy seeding, within five days of clearing or inactivity in construction.
4. Construction entrances should be stabilized immediately after grading and frequently maintained to prevent erosion and control dust.
5. During construction of the home, the contractor and/or property owner shall protect the storm drain inlets from sediment-laden runoff.
6. Erosion control materials (i.e. sandbags, strawbales, and silt fencing) shall be used to trap and filter sediment before entering the storm drain.
7. Establish fuel and vehicle maintenance staging areas located away from all drainage courses, and design these areas to control runoff.
8. Maintain and wash equipment and machinery in confined areas specifically designed to control runoff. Thinners or solvents should not be discharged into sanitary or storm sewer systems. Washout from concrete trucks should be disposed of at a location not subject to runoff and more than 50 feet away from a storm drain, open ditch or surface water.

Construction site operators shall be responsible for implementation of sedimentation control and good housekeeping measures in accordance with the approved erosion control plan and the Public Works Department Procedures for the Control of Runoff into Storm Drains and Watercourses. City (Building Division or Public Works Department) staff will site inspect to ensure proper installation, ongoing implementation, and effectiveness of approved BMPs, and may adjust requirements in the field if necessary to protect water quality.

Water Resources – Recommended Mitigation

W-3 Permeable Paving. Permeable/porous paving materials shall be utilized where possible to reduce the impermeability of hardscape surfaces.

Water Resources – Residual Impact

With implementation of identified mitigation measures W-1 and W-2, potentially significant impacts associated with drainage, surface water run-off and short-term water quality would be reduced to a less than significant level. Impacts associated with surface water run-off could be further reduced with implementation of mitigation measure W-3.

MANDATORY FINDINGS OF SIGNIFICANCE.		YES	NO
a)	Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?		X
b)	Does the project have the potential to achieve short-term, to the disadvantage of long-term, environmental goals?		X
c)	Does the project have potential impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?		X
d)	Does the project have potential environmental effects that will cause substantial adverse effects on human beings, either directly or indirectly?		X

INITIAL STUDY CONCLUSION

On the basis of this initial evaluation it has been determined that the proposed project may have a significant effect on the environment. With identified mitigation measures agreed-to by the applicant, potentially significant impacts in all issue areas would be avoided or reduced to less than significant levels.

Case Planner/Initial Study Preparer: _____ Allison De Busk, Associate Planner

Environmental Analyst: _____ Date: _____
Debra Andaloro

EXHIBITS:

- A. Project Plans
- B. Architectural Board of Review Minutes, dated August 23, 2004, November 29, 2004 and February 27, 2006
- C. Biological Assessment prepared by Watershed Environmental, dated November 4, 2005
- D. Biological Assessment Response Letter prepared by Watershed Environmental, dated December 20, 2005
- E. Fault Conditions Letter, prepared by CFS Geotechnical Consultants, Inc., dated August 9, 2002
- F. Preliminary Foundation Investigation, prepared by Pacific Materials Laboratory, dated November 12, 2004
- G. Preliminary Drainage Calculations, prepared by Flowers & Associates, dated February 27, 2005
- H. Mitigation Monitoring and Reporting Program

LIST OF SOURCES USED IN PREPARATION OF THIS INITIAL STUDY

The following sources used in the preparation of this Initial Study are located at the Community Development Department, Planning Division, 630 Garden Street, Santa Barbara and are available for review upon request.

California Environmental Quality Act (CEQA) & CEQA Guidelines

General Plan Circulation Element

General Plan Conservation Element

General Plan Land Use Element
General Plan Noise Element w/appendices
General Plan Map
General Plan Seismic Safety/Safety Element
General Plan Update 2030: Conditions, Trends and Issues Report
Geology Assessment for the City of Santa Barbara
2004 Housing Element
Institute of Traffic Engineers Parking Generation Manual
Institute of Traffic Engineers Trip Generation Manual
Master Environmental Assessment
Phase 1 Archaeological Resources Report, prepared by Western Points Archaeology, dated December 2004 (not available for public viewing)
Santa Barbara Municipal Code
Special District Map
Uniform Building Code as adopted by City

CONSULTANTS

CIVIL ENGINEER:

Flowers & Associates
500 East Monrovia Street
Santa Barbara, CA 93103
phone: 805.966.2224
fax: 805.965.3372

SURVEYOR:

Davis Land Surveying
44 Helena Ave.
Santa Barbara, CA
phone: 805.584.0736

ECOLOGIST:

Marshall Environmental
1109 east Clark Ave. Suite F 5
Cortez, CA 93435
phone: 805.934.9035

LANDSCAPE ARCHITECT:

Carol Suzanne Gross
3721 Gregory Way suite #1
Santa Barbara, CA 93105
phone: 805.682.0166

PROJECT STATEMENT

DESCRIPTION:

Existing lot is 4.12 acres.
This proposal is to divide the lot into two parcels.
Parcel A will be 1.8 acres. Parcel B will be 2.3 acres.
Parcel A will have an average slope of 36%. Parcel B will have an average slope of 35%.
This proposal is for a lot split only, however, the ABR requested a building footprint study
to demonstrate compliance with the Hillside Design Guidelines.
That study is included in this package.
A building envelope is proposed for Parcel A in an area of 28% average slope.
Building envelopes on less than 30% slopes are within the standards for hillside development.
There are several benefits to this proposal:
1. Environmental
a) improve traffic circulation on road
b) improve neighborhood safety by adding pedestrian safe zone along road
c) future building will not block private public views
2. Neighborhood
a) improve traffic circulation on road
b) improve neighborhood safety by adding pedestrian safe zone along road
c) future building will not block private public views

BUILDING DATA

BUILDING USE:

existing building:
PARCEL A: N/A
PARCEL B: single family residence

Proposed use of new buildings:
PARCEL A: future single family residence (not part of this application)
PARCEL B: N/A

SQUARE FOOTAGE OF BUILDING:

existing building:
PARCEL A: N/A
PARCEL B: 8,500 S.F.

SQUARE FOOTAGE OF PROPOSED BUILDING:

PARCEL A: N/A
PARCEL B: N/A

NUMBER OF EXISTING DWELLING UNITS:

PARCEL A: 0
PARCEL B: 1

NUMBER OF PROPOSED DWELLING UNITS:

PARCEL A: 0
PARCEL B: 0

NUMBER OF BUILDINGS BEING DEMOLISHED:

PARCEL A: 0
PARCEL B: 0

NUMBER OF EXISTING BEDROOMS IN EACH UNIT:

PARCEL A: N/A
PARCEL B: 4

NUMBER OF PROPOSED BEDROOMS IN EACH UNIT:

PARCEL A: N/A
PARCEL B: N/A (no change)

NUMBER OF EXISTING PARKING SPACES:

PARCEL A: N/A
PARCEL B: 4

NUMBER OF PROPOSED PARKING SPACES:

PARCEL A: N/A
PARCEL B: NONE

NUMBER OF REQUIRED PARKING SPACES:

PARCEL A: N/A
PARCEL B: 2

TREE REMOVAL DATA

LOLA (TREES TO BE REMOVED)

location	trunk size	type	comments
267.00'	8"	black acacia	fell in last storm season
266.00'	10"	black acacia	fell in last storm season
265.31'	10"	Acacia Baileyana	
263.57'	8"	Acacia Baileyana	
258.59'	8"	Acacia Baileyana	
260.33'	10"	Acacia Baileyana	
267.28'	8"	Acacia Baileyana	
265.43'	6"	Acacia Baileyana	
268.34'	6"	Acacia Baileyana	
	6.4"	quercus agrifolia	see biologist report
LOT B:			
276.00'	24"	palm	removal due to high fire
		palmyra	landscape tree location

SITE DATA

CODES:

2001 California building code
2001 California mechanical code
2001 California plumbing code
2001 California electrical code
all applicable state and local codes and ordinances

CONSTRUCTION:

type v non rated
con-sprinklered
1-hour @ projections within 3' of setback, etc. sec

OCCUPANCY:

General Plan: Residential, 2 units per acre

Based upon SBMC 28.15.060, the required minimum lot size of the proposed parcels is 75,000 square feet net.

ZONE:

A-2, General Plan: Residential, 2 units per acre, Hillside Design District

SQUARE FOOTAGE:

Existing Lot: (4.12 acres)
net: 172,137 s.f.
gross: 179,450 s.f.

PROPOSED LOS:

PARCEL A (1.8 acres)
net: 75,000 s.f.
gross: 77,260 s.f.
PARCEL B (2.3 acres)
net: 96,888 s.f.
gross: 101,950 s.f.

AVERAGE SLOPE:

Existing Lot: 35%
Proposed Los:
PARCEL A: 36%
PARCEL B: 35%

EXISTING SITE DATA:

building coverage: 4,200 s.f. 02 %
paved area: 13,200 s.f. 07 %
open/ landscaped areas: 162,050 s.f. 91 %
Total (gross): 179,450 s.f. 100 %

PROPOSED SITE DATA:

PARCEL A
development envelope: 14,100 s.f. 18 %
within develop envelope: 9,200 s.f. 12 %
building envelope (8,120 s.f.)
open/ landscaped areas: 63,400 s.f. 82 %
Total (gross): 77,500 s.f. 100 %
PARCEL B
building coverage: 9,500 s.f. 09 %
open/ landscaped areas: 92,450 s.f. 91 %
Total (gross): 101,950 s.f. 100 %

GRADING - Proposed Lot Subdivision:

Both PARCEL A and PARCEL B:

interior road removal
cut: 50 C.Y.
fill: 250 C.Y.
road widening on Eucalyptus Hill Rd: reconfiguration of existing driveway, and hillside restoration on PARCEL B
cut: 50 C.Y.
fill: 200 C.Y.

PARCEL A:

hillside restoration
cut: 50 C.Y.
fill: 150 C.Y.
storm drain system
cut: 200 C.Y.
fill: 200 C.Y.

grading summary: site improvements on Parcel A and Parcel B include:
interior road removal, hillside restoration, city road widening for pedestrian safety, and reconfiguration of existing driveway for safety.
cut: 350 C.Y.
fill: 900 C.Y.

SHEET INDEX

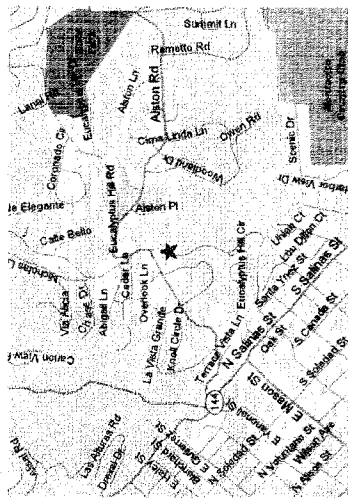
SHEET

DESCRIPTION

N-1 Neighborhood Map
T-1 Tentative Map
TM-2 Conceptual Grading
TM-3 Conceptual Grading and Site Improvements
TM-4 Site Sections
PL-1 Landscape Plan
PP-1 Erosion Plan
PP-2 Erosion Plan
PP-3 Erosion Plan
Study for future building on Parcel A (proposal not part of this application)
ST-1 Parcel A: drives and building study
ST-2 Parcel A: sections for development study
H-1 Preliminary Drainage Calculations for Development Study
PL-2 Parcel A: Landscape Plan for development study
no sheet # Slope

VICINITY MAP

NTS



LEGAL

OWNERS NAME:
Eucalyptus Hill Modern, LLC

APN: 015-161-054

R.M. Book 15, page 398; Woodland Park Estate
9906561 R.M. Book 96, page 94-95 Asson Woods

ADDRESS:

1776 Eucalyptus Road
Santa Barbara, California 93103-2814



date: June 14, 2006
rev: Aug. 21, 2006

RECEIVED

NOV 01 2006

CITY OF SANTA BARBARA
PLANNING DIVISION

EXHIBIT A

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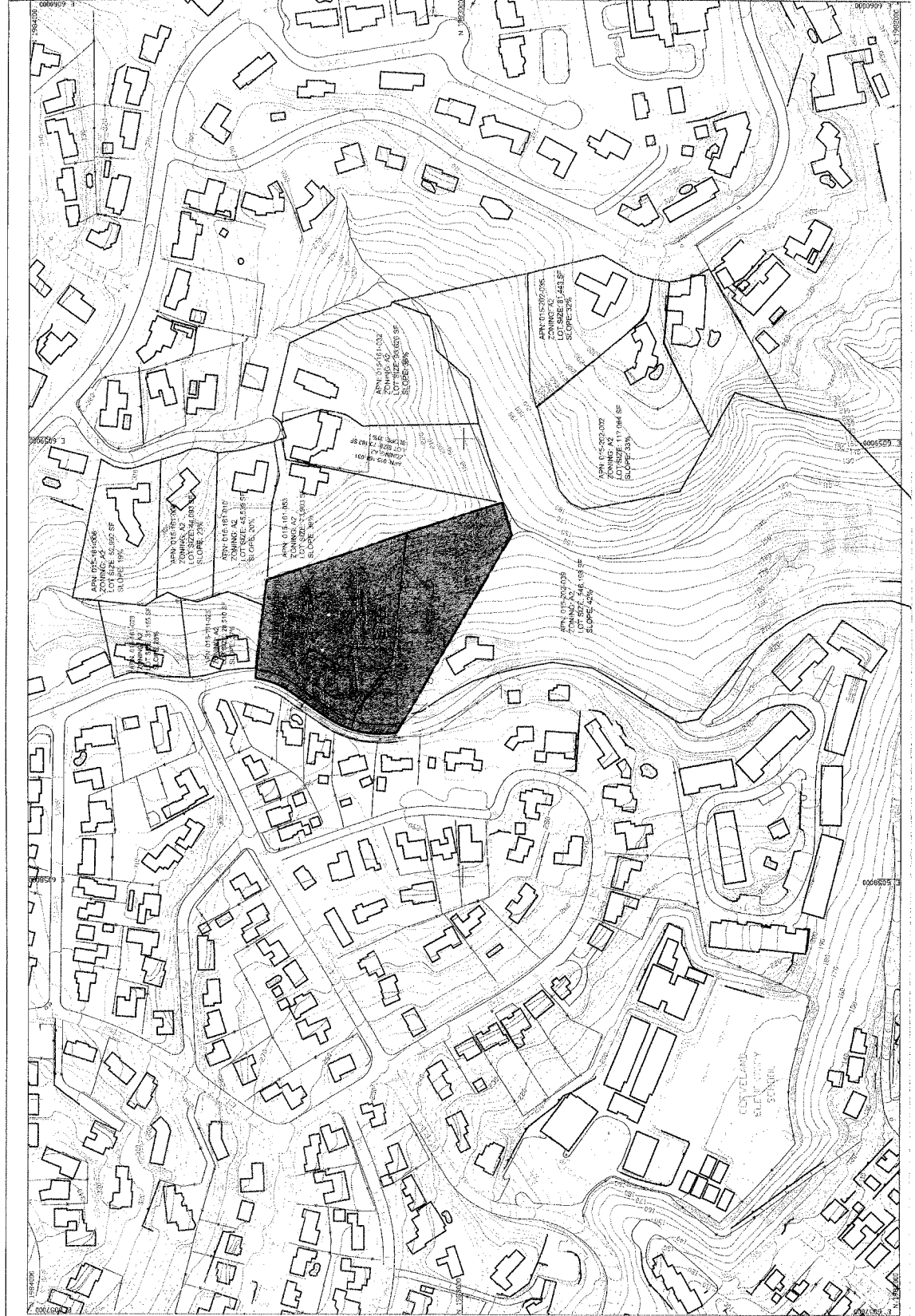
TOPOGRAPHIC MAP
OF THE
CITY OF SANTA BARBARA
PUBLIC WORKS DEPARTMENT
APRIL, 1997
REVISED



Pontel & Smith
ENGINEERS
1000 N. MICHIGAN ST., SUITE 200
SANTA BARBARA, CA 93101
(805) 964-1111
FAX (805) 964-1112
WWW.PONTEL.COM

Towill, Inc.
1000 N. MICHIGAN ST., SUITE 200
SANTA BARBARA, CA 93101
(805) 964-1111
FAX (805) 964-1112
WWW.TOWILL.COM

NOTES:
1. HORIZONTAL DATUM: NAD 83
2. VERTICAL DATUM: MSL
3. DATE OF PHOTOGRAPHY: APRIL 10, 1995

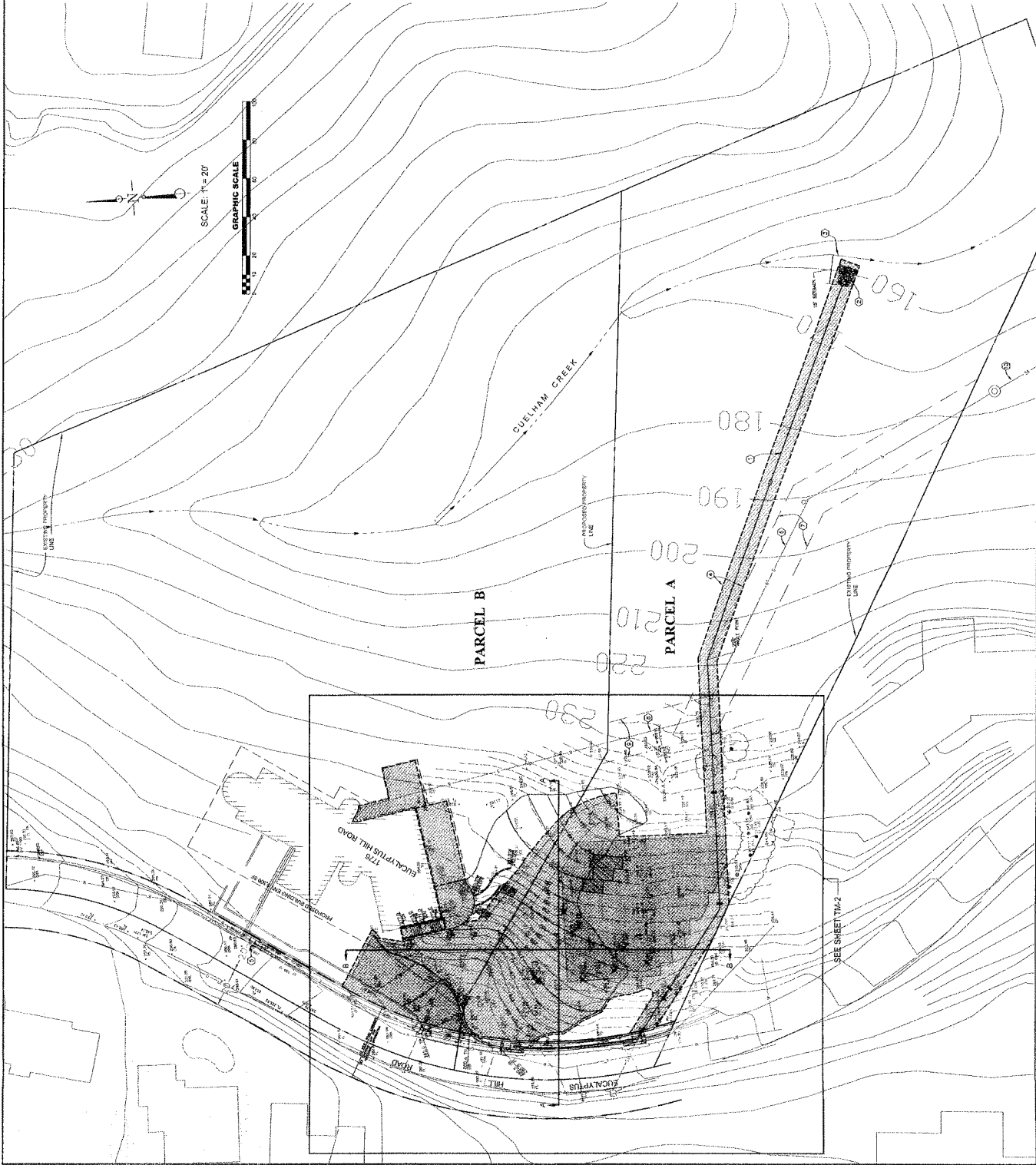


CONCEPTUAL GRADING AND DRAINAGE NOTES THIS SHEET:

1. PROPOSED CHANGING DRAINAGE TO SLOPE
2. PROPOSED ADJUSTED ROAD BEDLINE
3. EXISTING DRAINAGE CHANNEL
4. PROPOSED SLOPE OF EXISTING CHANNEL
5. EXISTING WATERWAYS FOR PARCELS
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EARTHWORK

1. RECONSTRUCT DRIVEWAY TO PARCEL B, EUCALYPTUS HILL ROAD IN DRAINAGE AND RECONSTRUCT PARCEL B
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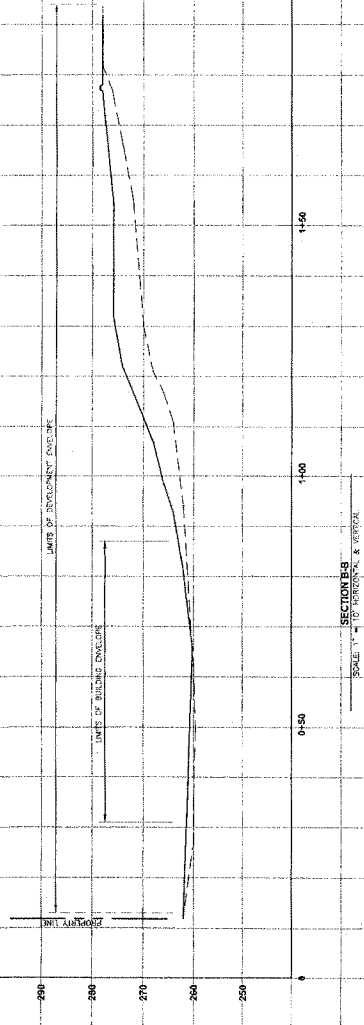
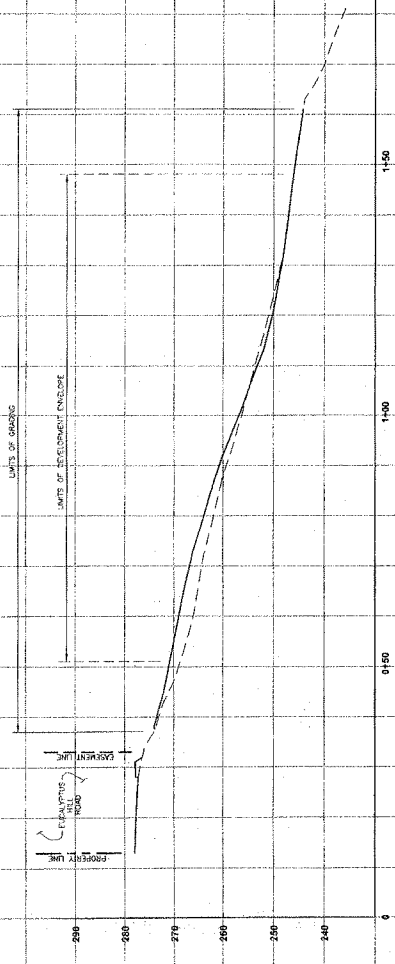
REVISIONS

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FLOWERS & ASSOCIATES, INC.
 CIVIL ENGINEERS
 601 East Main Street
 Santa Barbara, CA 93101
 Telephone: (805) 966-0000
 Fax: (805) 966-0001

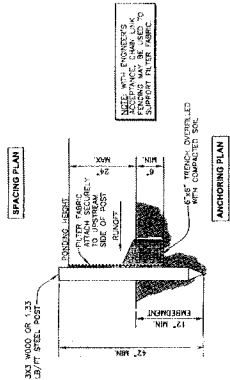
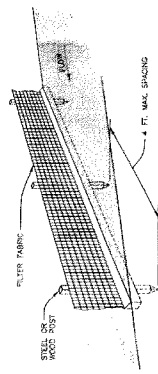
TENTATIVE MAP EXHIBIT "B"
CONCEPTUAL GRADING AND DRAINAGE PLAN
1776 EUCALYPTUS HILL ROAD
CITY OF SANTA BARBARA, CALIFORNIA

PROJECT: 1776 EUCALYPTUS HILL ROAD
 DATE: 01/01/2008
 SHEET: 2 OF 3
 W.O. 0817

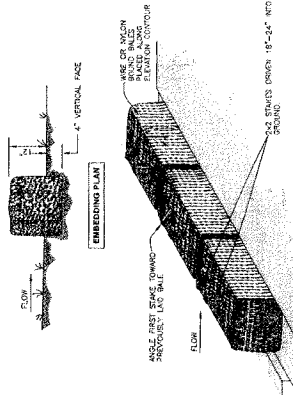


		FLOWERS & ASSOCIATES, INC. 800 GARDEN STREET, SUITE 200 OAKLAND, CALIFORNIA 94612 (415) 764-1234 FAX (415) 764-1235	DESIGN: DJF DRAFT: DJF CHECK: DJF	TENTATIVE MAP EXHIBIT "C" CONCEPTUAL GRADING AND DRAINAGE PLAN SITE SECTIONS 1776 EUCALYPTUS HILL ROAD CITY OF SANTA BARBARA, CALIFORNIA	TM-4 SHEET 3 OF 3 PROJECT NUMBER: 02-22-2023-10 DATE: 02/22/2023
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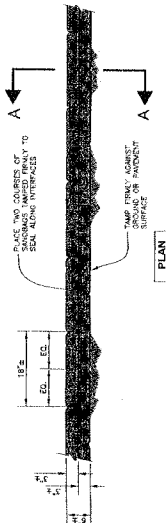
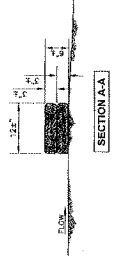
REVISIONS	
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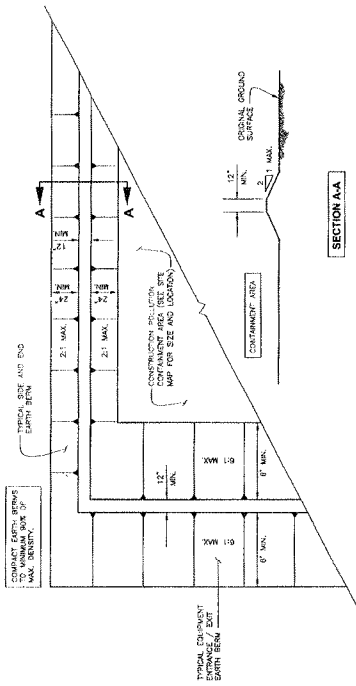
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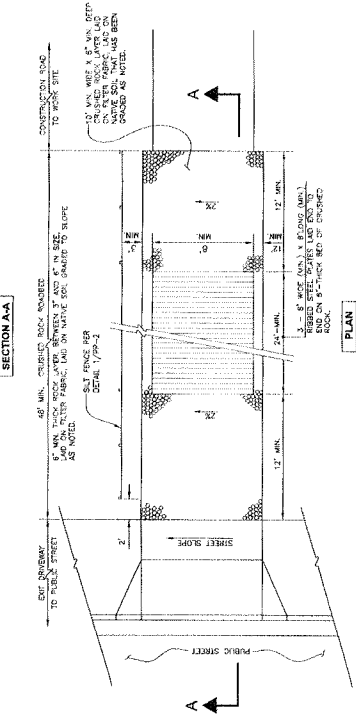
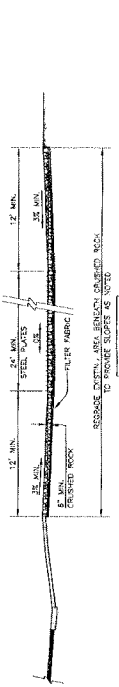
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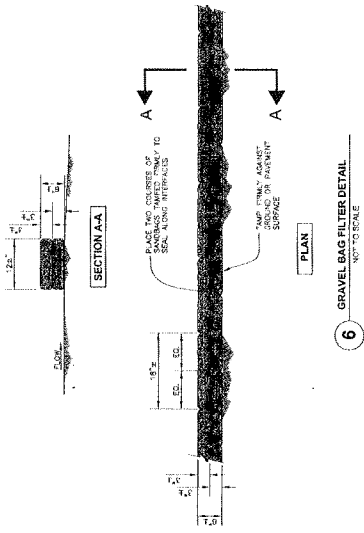
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4 POLLUTION CONTAINMENT BERM DETAIL
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5 STEEL PLATE / ROCK STABILIZED CONSTRUCTION ENTRANCE DETAIL
NOT TO SCALE



6 GRAVEL BAG FILTER DETAIL
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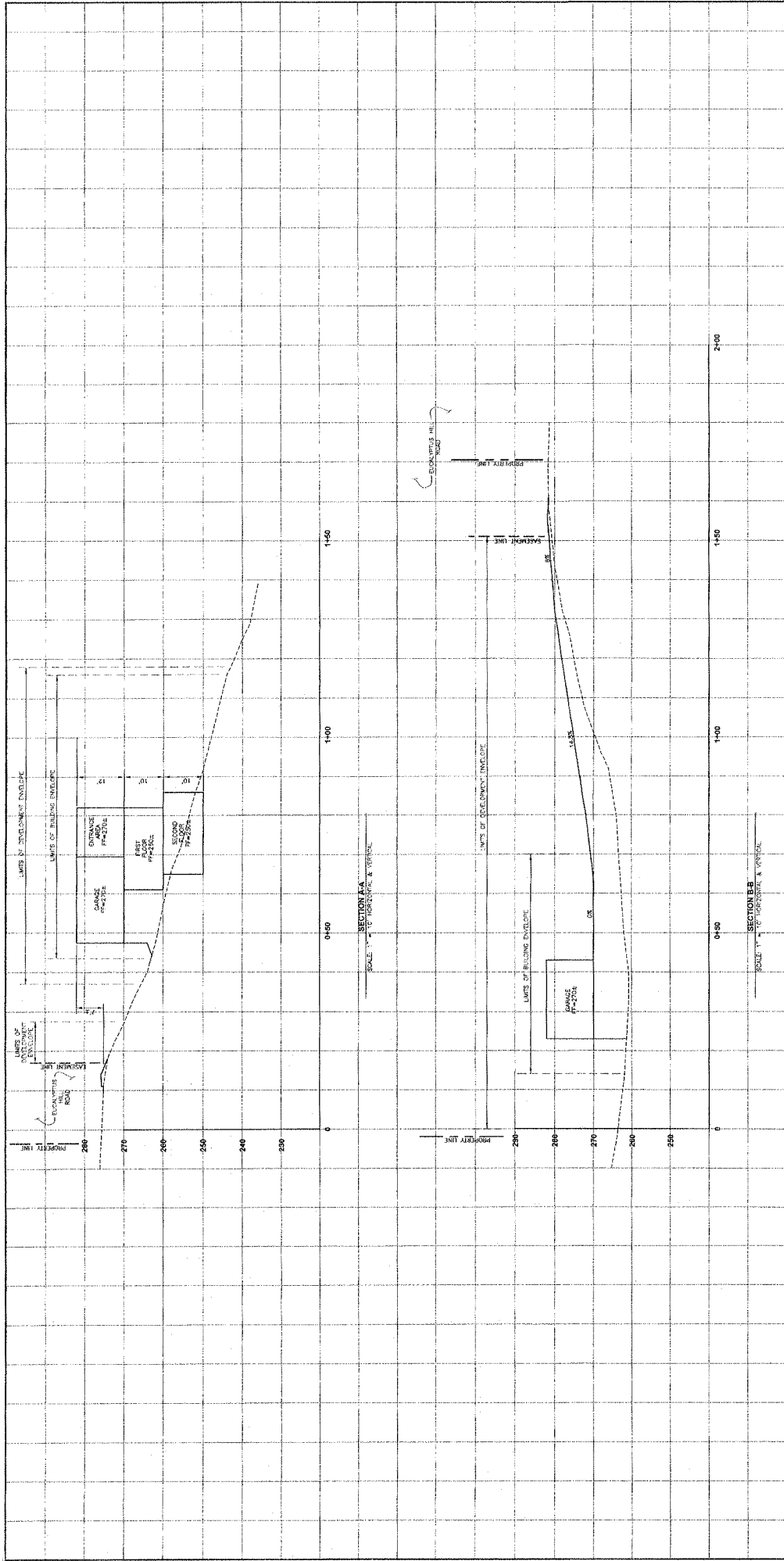
NO.	REVISIONS	DATE	APPROVED

NOTES: 1. ALL EROSION CONTROL MEASURES SHALL BE INSTALLED AND MAINTAINED THROUGHOUT THE CONSTRUCTION PERIOD. 2. ALL EROSION CONTROL MEASURES SHALL BE REMOVED IMMEDIATELY UPON COMPLETION OF THE PROJECT. 3. ALL EROSION CONTROL MEASURES SHALL BE MAINTAINED IN GOOD CONDITION AT ALL TIMES. 4. ALL EROSION CONTROL MEASURES SHALL BE INSPECTED AND APPROVED BY THE CITY OF SANTA BARBARA BEFORE CONSTRUCTION BEGINS. 5. ALL EROSION CONTROL MEASURES SHALL BE MAINTAINED THROUGHOUT THE CONSTRUCTION PERIOD. 6. ALL EROSION CONTROL MEASURES SHALL BE REMOVED IMMEDIATELY UPON COMPLETION OF THE PROJECT. 7. ALL EROSION CONTROL MEASURES SHALL BE MAINTAINED IN GOOD CONDITION AT ALL TIMES. 8. ALL EROSION CONTROL MEASURES SHALL BE INSPECTED AND APPROVED BY THE CITY OF SANTA BARBARA BEFORE CONSTRUCTION BEGINS. 9. ALL EROSION CONTROL MEASURES SHALL BE MAINTAINED THROUGHOUT THE CONSTRUCTION PERIOD. 10. ALL EROSION CONTROL MEASURES SHALL BE REMOVED IMMEDIATELY UPON COMPLETION OF THE PROJECT.



FLOWERS & ASSOCIATES, INC.
CIVIL ENGINEERS
100 East Main Street, Suite 100
Santa Barbara, CA 93101
Phone: 805.963.2224
Fax: 805.963.2225
E-mail: info@flowersinc.com
Website: www.flowersinc.com

EROSION / POLLUTION CONTROL DETAILS
CONCEPTUAL GRADING AND DRAINAGE PLAN
1776 EUCALYPTUS HILL ROAD
CITY OF SANTA BARBARA, CALIFORNIA
SHEET 2 OF 2
DATE: AUG 05, 2008
PROJECT: 10312-PP-2 AND PP-3



REVISIONS		DATE		BY	

FLOWERS & ASSOCIATES, INC.
 505 East Market Street
 Suite 200
 San Jose, CA 95131
 Telephone: (408) 986-2200

SITE SECTIONS FOR PARCEL A DEVELOPMENT STUDY
 1776 EUCALYPTUS HILL ROAD
 CITY OF SANTA BARBARA, CALIFORNIA

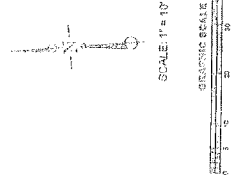
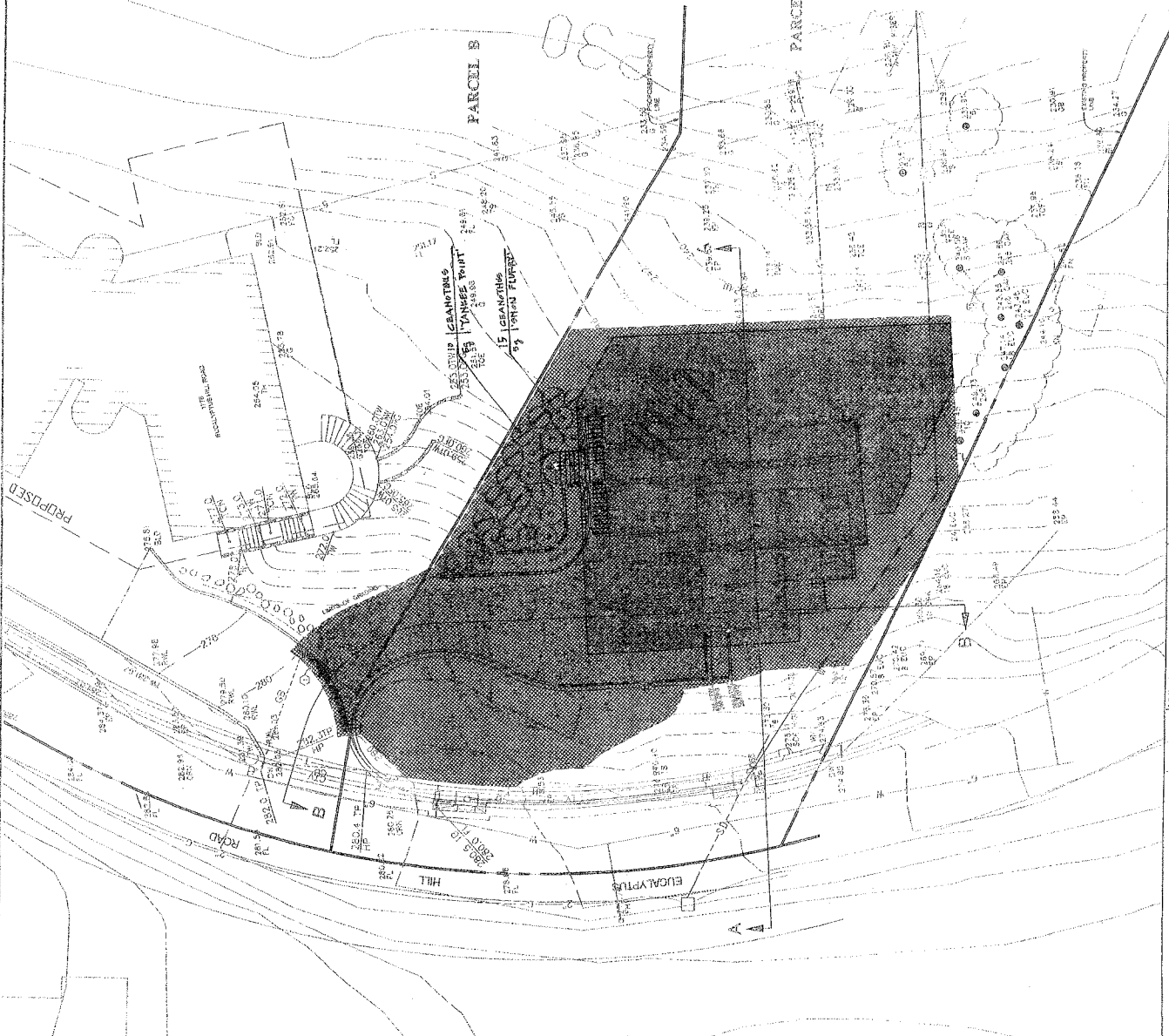
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ST-2
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- CONCEPT, GRADING AND DRAINAGE LAYOUT FOR THE PROPOSED DEVELOPMENT. THE PROPOSED DEVELOPMENT IS A 15-UNIT RESIDENTIAL DEVELOPMENT. THE PROPOSED DEVELOPMENT IS A 15-UNIT RESIDENTIAL DEVELOPMENT. THE PROPOSED DEVELOPMENT IS A 15-UNIT RESIDENTIAL DEVELOPMENT.
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- LEGEND
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EUTRONIC
SURFACE ESTIMATE FOR PROPOSED DEVELOPMENT (ALL AREAS AND TOTAL SECTION)
SUT BY SUB-TOTAL
FULL SECTION VALUES



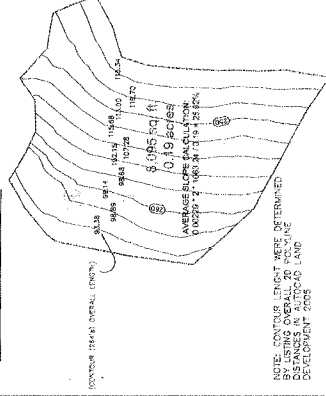
SLOPE PLAN

1. Average Slope calculations were derived per SBMC 28 (1.98) (see formula and Calculation Detail below)
2. Slope Ranges indicated herein are per SBMC 28 (1.98) (see formula and Calculation Detail below)
3. Subject parcel is associated with a Flood Hazard Zone per SB 373 (see Flood Hazard Letter dated May 25, 2005) (see Flood Hazard Letter below)

SBMC 28.15.080

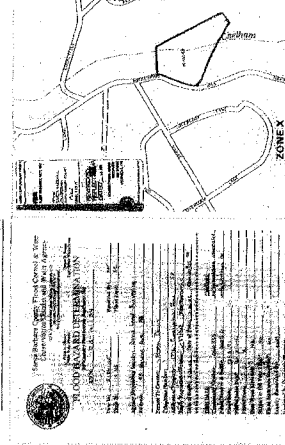
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1.17. General	SBMC 28.15.080
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1.20. General	SBMC 28.15.080

CALCULATION DETAIL

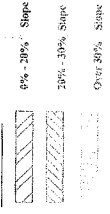


NOTE: CONTOUR LENGTH WERE EXTENDED BY LISTING OVERALL TO CONTINUE DEVELOPMENT 2005

FLOOD HAZARD LETTER



SLOPE KEY



TENTATIVE MAP

BEING A LOT OF PARCEL TWO OF PARCEL MAP NO. 20077 RECORDED IN PARCEL MAP BOOK 15 PAGE 52, FILED IN THE OFFICE OF THE COUNTY CLERK OF SANTA BARBARA, STATE OF CALIFORNIA.

JUNE 2005

DAVIS LAND SURVEYING
1776 Eucalyptus NAD38.dwg, Jeffrey, 1776 Eucalyptus-TPM9d.dwg, 6/15/2005 8:22:23 AM, DesignJet 1050C (C60744)



CONCEPT REVIEW - NEW ITEM**3. 1776 EUCALYPTUS HILL RD**

A-2 Zone

Assessor's Parcel Number: 015-161-054
Application Number: MST2002-00614
Owner: Rick Jeffery
Applicant: Rick Jeffrey
Agent: Carol Gross

(Proposal for two-lot subdivision of a 4.12 acre lot with an existing Single Family Residence.)

(COMMENTS ONLY; PROJECT REQUIRES ENVIROMENTAL ASSESSMENT, AND PLANNING COMMISSION APPROVAL OF THE TENTATIVE SUBDIVISION MAP.)

(This is a conceptual review of the proposed building pad locations.)

(4:13)

Rick Jeffrey, Owner/Applicant, and Carol Gross, Landscape Architect, present.

Staff Comment: Jessica Grant, Case Planner, clarified that the applicant can proceed with a lot split, but staff will require mass study of a potential house, site constraints and elevation.

Motion: Continued indefinitely with the following comments: 1) The Board determined that the proposed envelope was the most aesthetically supportable location. 2) The Board has significant concerns regarding the siting, massing and size of the structure using the Hillside Design Guidelines. 3) Provide massing and vehicle access studies of the design concept.

Action: Six/Manson-Hing, 8/0/0.

REVIEW AFTER FINAL**4. 619 W ORTEGA ST**

R-3 Zone

Assessor's Parcel Number: 037-101-005
Application Number: MST2003-00147
Owner: John & Hazel Blakenship/Gil & Martha Garcia
Architect: Gil Garcia

(Proposal to construct a 5,100 square foot, two-story, multi-residential building on an 11,438 square foot lot. Also proposed area detached two-story building consisting of five, one-car garages with a 988 square foot residential unit above and five attached one-car carports. A total of five condominiums are proposed.)

(Review After final change to the exterior finish and hardscape.)

(4:40)

Gil Garcia, Architect, present. Derrick Eichelberger stepped down at 4:40.

Motion: Final Approval of the Review After Final with one week continuance to the Consent Calendar with the following conditions: 1) The north elevation porch shall be re-introduced with original wood column and detail. 2) The exterior finishes of plaster on the first floor and board and batten on the second floor are acceptable. 3) Add more break ups of the split face on the masonry boundary wall. 4) Continue the split face pattern around the corner.

Action: Mudge/Manson-Hing, 7/0/0.

Motion: Reopen item.

Action: Larson/Bartlett, 7/0/0.

Motion: Final approval of the revised paving pattern with the condition that the faux flagstone shall be on both sides of the ribbon driveway.

Action: Mudge/Manson-Hing, 7/0/0.

EXHIBIT B

CONCEPT REVIEW - NEW ITEM: PUBLIC HEARING**8. 906 GARCIA RD**

R-3 Zone

Assessor's Parcel Number: 029-252-001
Application Number: MST2004-00755
Owner: Harrison, James Brett
Architect: Mark Wienke

(Proposal to demolish a detached 627 square foot garage and construct a 1,223 square foot addition to an existing one story 1,037 square foot single family residence with an attached 526 square foot two car garage. The project will result in a two story 2,260 square foot single family residence with an attached 526 square foot garage on a 5,871 square foot lot located in the Hillside Design District.)

(COMMENTS ONLY; PROJECT REQUIRES ENVIRONMENTAL ASSESSMENT, AND NEIGHBORHOOD PRESERVATION ORDINANCE FINDINGS.)**(6:42)**

Mark Wienke, Architect, present.

Public comment opened at 6:59 p.m.

Chair Six read a letter from Jeffrey and Kathleen Stratford-Jones, neighbors, which stated they are concerned with the height of the new addition, the height of the proposed new landscaping and that the project is not architecturally compatible with the neighborhood.

Sabino Crespo, neighbor, stated that he is concerned with the height of the project and the height of the landscaping.

Public comment closed at 7:03

Motion: Continued indefinitely with the following comments: 1) The Board is concerned about the size, bulk, and scale, as well as neighborhood compatibility and therefore, will conduct a site visit. 2) Lower the two-story portion of the garage. 3) Provide accurate documentation and site sections of the adjacent properties.

Action: Larson/Eichelberger, 8/0/0.

CONCEPT REVIEW - CONTINUED ITEM**9. 1776 EUCALYPTUS HILL RD**

A-2 Zone

Assessor's Parcel Number: 015-161-054
Application Number: MST2002-00614
Owner: Rick Jeffery
Applicant: Rick Jeffrey
Agent: Carol Gross

(Proposal for two-lot subdivision of a 4.12 acre lot with an existing Single Family Residence.)

(Second Concept Review.)**(COMMENTS ONLY; PROJECT REQUIRES ENVIRONMENTAL ASSESSMENT, AND PLANNING COMMISSION APPROVAL FOR A TENTATIVE SUBDIVISION MAP.)****(7:29)**

Carol Gross, Agent; and Rick Jeffery, Owner, present.

Public comment opened at 7:39 p.m.

James Rudy, agent for the Eucalyptus Hill Association Board of Directors, read a letter from John Manning stating their concerns with the steep slopes, land sliding, faulting, plant and animal habitats, and poor roadway access.

John Fiske, neighbor, stated his main concern is with the height of the new structure and the obstruction of his view.

Ben Walsh, neighbor, stated he is concerned that a previous Environmental Impact Report prepared in 1976 states that the property is in a major earthquake area, a high fire area, and that a bird refuge runs through the bottom of the canyon. He stated that he feels the project would have an adverse impact on wildlife and vegetation. He further stated that Eucalyptus Hill Road is a dangerous road to travel.

Public comment closed at 7:49 p.m.

Motion: Continued indefinitely to the Planning Commission with the following comments:
1) The building envelope on slopes of less than 30% from an esthetic viewpoint is a buildable site.
2) The proposed structure of 3,000 square feet, including garage, is acceptable in scale and would have minimal, if any visual impact. 3) The Hillside Design Guidelines technique of stepping back will further help mitigate any visual impact from across the canyon. 4) The Board appreciates the applicant's consideration in working with the neighbors. 5) The Board appreciates the applicant's elimination of the visual scarring caused by the existing access road.

Action: Pierron/Bartlett, 7/0/0.

CONCEPT REVIEW - NEW ITEM

10. ~~421 LAGUNA ST~~

M-1 Zone

Assessor's Parcel Number: 031-282-006
Application Number: MST2004-00660
Owner: County Lumber Company of Santa Barbara
Applicant: Justin Van Mullen
Architect: On Design

(Proposal to enclose 312 square feet for new retail and construct a 110 square foot addition to the existing retail building. Proposal will also include minor exterior alterations to the existing buildings.)

(COMMENTS ONLY; PROJECT REQUIRES ENVIRONMENTAL ASSESSMENT AND DEVELOPMENT PLAN APPROVAL.)

(8:02)

Justin Van Mullen, Applicant, present.

Motion: Continued indefinitely to the Consent Calendar with the following comments: 1) The project is ready for Preliminary Approval. 2) The Board will be able to make the Development Plan Approval findings when the project returns for approval. 3) Preliminary and Final Approval can be made at Consent. 4) The prominent front windows facing Laguna Street should remain. 5) The electric meter should be relocated to be in a less publicly visible location or enclosed so only the meter face is visible. 6) Introduce a non-deciduous vine instead of wisteria to be planted at the stationary portions of green screen fence.

Action: Pierron/Manson-Hing, 7/0/0.

Mark Edwards, Owner; Peter Ehlen, Architect; David Black, Landscape Architect; and Chelsey Swanson, Assistant Planner for the City of Santa Barbara, present.

Public Comment opened at 7:39 p.m.

Mr Untermann, neighbor, found the project to be a positive addition to the neighborhood and would set the trend in quality development for the area. The quality of the detail elements on parking and landscaping of the project are highly desirable for the neighborhood.

Public Comment closed at 7:42 p.m.

Motion: Continued indefinitely to Planning Commission with the following comments: (Previous Comment #1 carried forward) 1) A majority of the Board is generally comfortable with the contemporary style of the proposal, and finds that the flat roofs and other details are compatible with the industrial nature of the neighborhood. 2) The majority of the Board finds the size, bulk, and scale of the project is acceptable, but would like to see the third floor setback increased as it addresses Los Aguajes Avenue since the current proposal is requesting a front yard modification. 3) Modifications on the first and second floor are supported by the Board since they are in alignment with the adjacent properties on either side of the property. 4) The layout of the parking is acceptable, since it does not include garage doors facing the street. 5) More pedestrian delineation in the paving is requested to make the entry ways for the three condominiums more obvious than the current proposal. 6) The stone base on the ground floor of the building is acceptable and adds to the quality of materials for the contemporary style building. 7) The landscape plan is appropriate for the beach area of the project with the proposed palm trees appropriate for the three story buildings. 8) Support from the Board for the interior yard modifications, as delineated by Staff, is mixed. 9) Some support of the encroachments could be obtained from the Board if directed toward allowable uses such as decks or fireplaces. The proposed encroachments are minimal and represent only window ledges or upper level protrusions supported from the ground. 10) Glass hand rails with the sandblasted or etched outer facings are accepted by the Board since they are non-glare/not reflective and in keeping with the style of the architecture.

Action: Wienke/Romano, 7/1/0 (Mosel opposed).

CONCEPT REVIEW - CONTINUED ITEM

5. 1776 EUCALYPTUS HILL RD

A-2 Zone

Assessor's Parcel Number: 015-161-054
Application Number: MST2002-00614
Owner: Rick Jeffery
Agent: Carol Gross

(Proposal for two-lot subdivision of a 4.12 acre lot with an existing single-family residence in the Hillside Design District.)

(Review of Landscape Plan)

(COMMENTS ONLY; PROJECT REQUIRES ENVIRONMENTAL ASSESSMENT, AND PLANNING COMMISSION APPROVAL FOR A TENTATIVE SUBDIVISION MAP.)

(7:50)

Rick Jeffery, Owner; and Carol Gross, Agent and Landscape Architect, present.

Motion: Continued indefinitely to the Planning Commission with the following comments:
1) (Previous Comment #5 carried forward, with further elaboration) The Board appreciates the applicant's elimination of the visual scarring caused by the existing access road. 2) The proposed interim landscape plan returns the hillside to a more natural condition despite being temporary until a future house is approved or built on a newly proposed lot. 3) Restudy the plant palette for more compatible plants with the existing vegetation. 4) The proposed east side improvements on Eucalyptus Hill Road, and the proposed driveway realignment for 1776 Eucalyptus Hill Road, are both beneficial improvements to a currently awkward and dangerous curve, and should improve walkability and maneuverability in that vicinity.

Action: Mudge/Romano, 8/0/0.

CONCEPT REVIEW - CONTINUED ITEM

6. 819 N SALSIPUEDES ST

R-3 Zone

Assessor's Parcel Number: 031-031-008

Application Number: MST2006-00013

Owner: Webster Elai Ne

Architect: Ron Sorgman

(Proposal to construct two new single family residences on a 6,750 square foot lot. The project consists of a new 735 square foot one-story residence and attached 715 square foot two-car carport on the front of the lot and a 1,411 square foot, two-story residence on the rear of the lot. The project includes demolishing the existing 845 square foot one-story front residence and the 867 square foot one-story rear residence (total demolition of 1,712 square feet). A modification is requested to allow the reduction of one required parking space and the encroachment of a parking space in the interior yard setback.)

(Second Concept Review.)

(COMMENTS ONLY; PROJECT REQUIRES ENVIRONMENTAL ASSESSMENT AND STAFF HEARING OFFICER APPROVAL FOR A MODIFICATION.)

(8:16)

Ron Sorgmann, Architect, present.

Motion: Continued indefinitely with the following comments: 1) The two-stall carport is supported by the Board, but parking for three cars on the site would be preferable. 2) Opening of the porch on the rear unit is acceptable. 3) Applicant to return with landscape plan including access to the rear unit. 4) Applicant to ensure that the distance from the carport to the structure is appropriate for zoning. 5) The ribbon driveway is viewed as an enhancement.

Action: Mudge/Mosel, 7/0/0 (LeCron absent).

Revised November 4, 2005

BIOLOGICAL ASSESSMENT

1776 EUCALYPTUS HILL ROAD (APN: 015-161-045)

SANTA BARBARA, CALIFORNIA



Prepared for:

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Biological Assessment
1776 EUCALYPTUS HILL ROAD (APN 015-161-045)
SANTA BARBARA, CALIFORNIA

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1.0 SUMMARY OF FINDINGS

This biological assessment found eight types of biological resource impacts from implementation of the proposed project. It evaluates the short- and long-term effects of these impacts per California Environmental Quality Act guidelines. Two of the eight impacts identified were determined to be potentially adverse, significant, and mitigable: 1) short-term impacts to water quality from erosion and sedimentation and 2) short- and long-term impacts to the riparian habitat. All other impacts were found to be either less than significant, none, or beneficial. The cumulative effects of the proposed project were found to be beneficial because the project—with implementation of the recommended mitigation measures—will preserve riparian habitat, reduce erosion, and improve water quality. Eight biological mitigation measures are recommended to ensure that potentially adverse, significant impacts are mitigated to acceptable levels and to reduce further impacts consistent with the City of Santa Barbara Conservation Element policies, High Fire Hazard Guidelines, and Hillside Design District standards.

2.0 INTRODUCTION

This report was prepared by Watershed Environmental under contract to the property owner, Mr. Rick Jeffrey. The report describes the existing biological resources on the 4.12-acre property (APN: 015-161-045) located at 1776 Eucalyptus Hill Road, in the City of Santa Barbara (Figure 1). The purposes of this report are to: 1) identify existing biological resources; 2) evaluate the potential impacts of proposed development to biological resources and water quality; and 3) provide planning and design recommendations to avoid and minimize potential impacts.

The parcel is located in a residential neighborhood in an area within the City of Santa Barbara known as "the Riviera." Surrounding land use is residential on all four sides of the property. The parcel currently contains a 9,000-sq.-ft., single-family residence and assorted native and non-native landscape vegetation. An unnamed ephemeral creek flows through the eastern portion of the property in a north-to-south direction. The surface water from this creek eventually discharges to the Andree Clark Bird Refuge and the Pacific Ocean near East Beach.

3.0 PROJECT DESCRIPTION

The project includes a split of the existing 4.12-acre parcel into two separate lots. The existing residence would be located on a 2.39-acre lot (Parcel B) and a new single-family residence would be built on a 1.72-acre lot (Parcel A). Access to the new residence would be provided by the existing driveway, which would serve both the new and existing residences.

A new single-family residence would be located within a 5,000-sq.-ft. (0.11-acre) building envelope on the western portion of the lot. The new residence would be a 3,000-sq.-ft., two-story structure, including a garage on the first story (Figure 2) **and two 2,500-gal. buried pre-cast concrete septic tanks to be used for stormwater detention. The storm water detention tanks, for the purposes of this assessment, are considered to be applicant-proposed mitigation.**

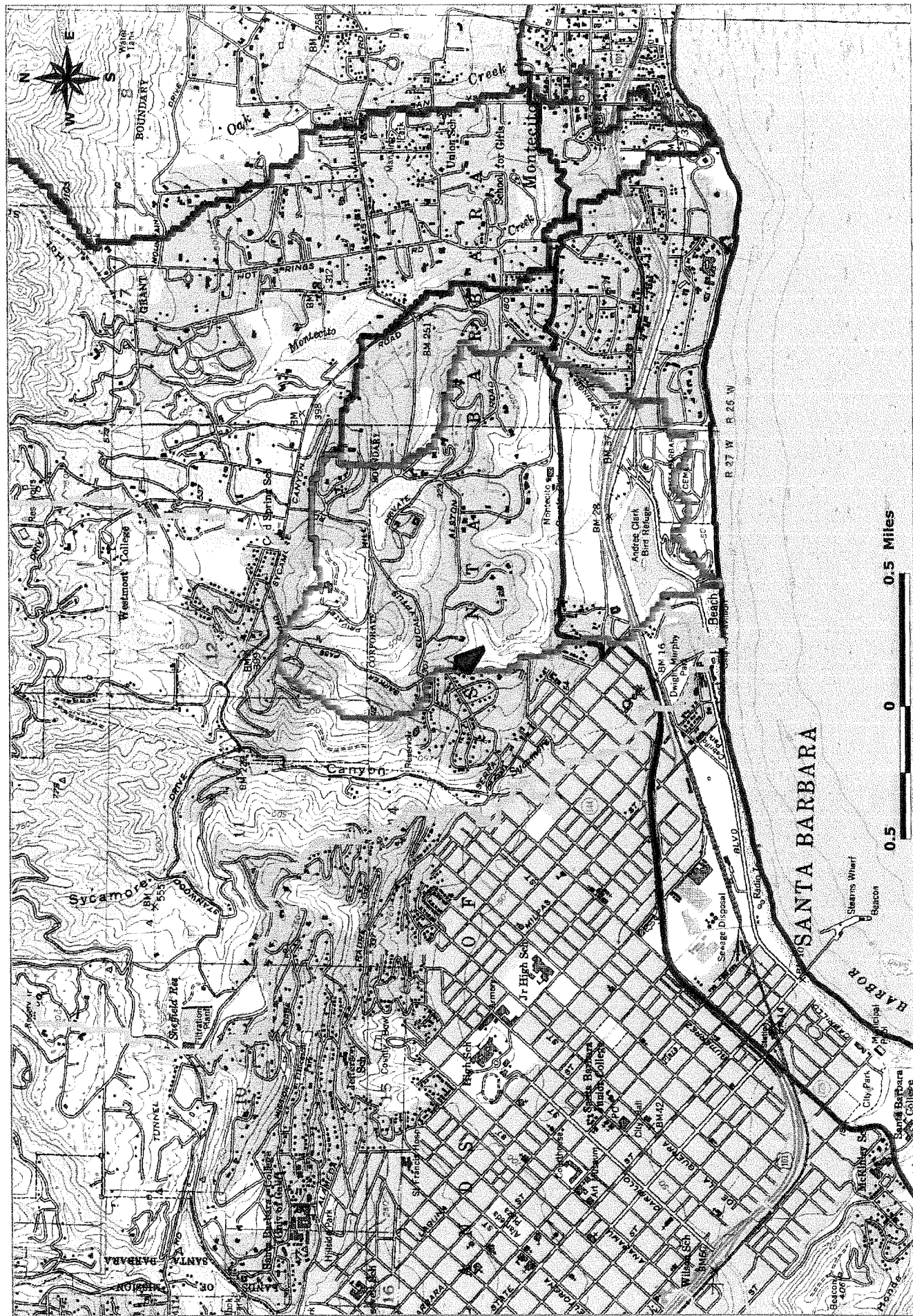


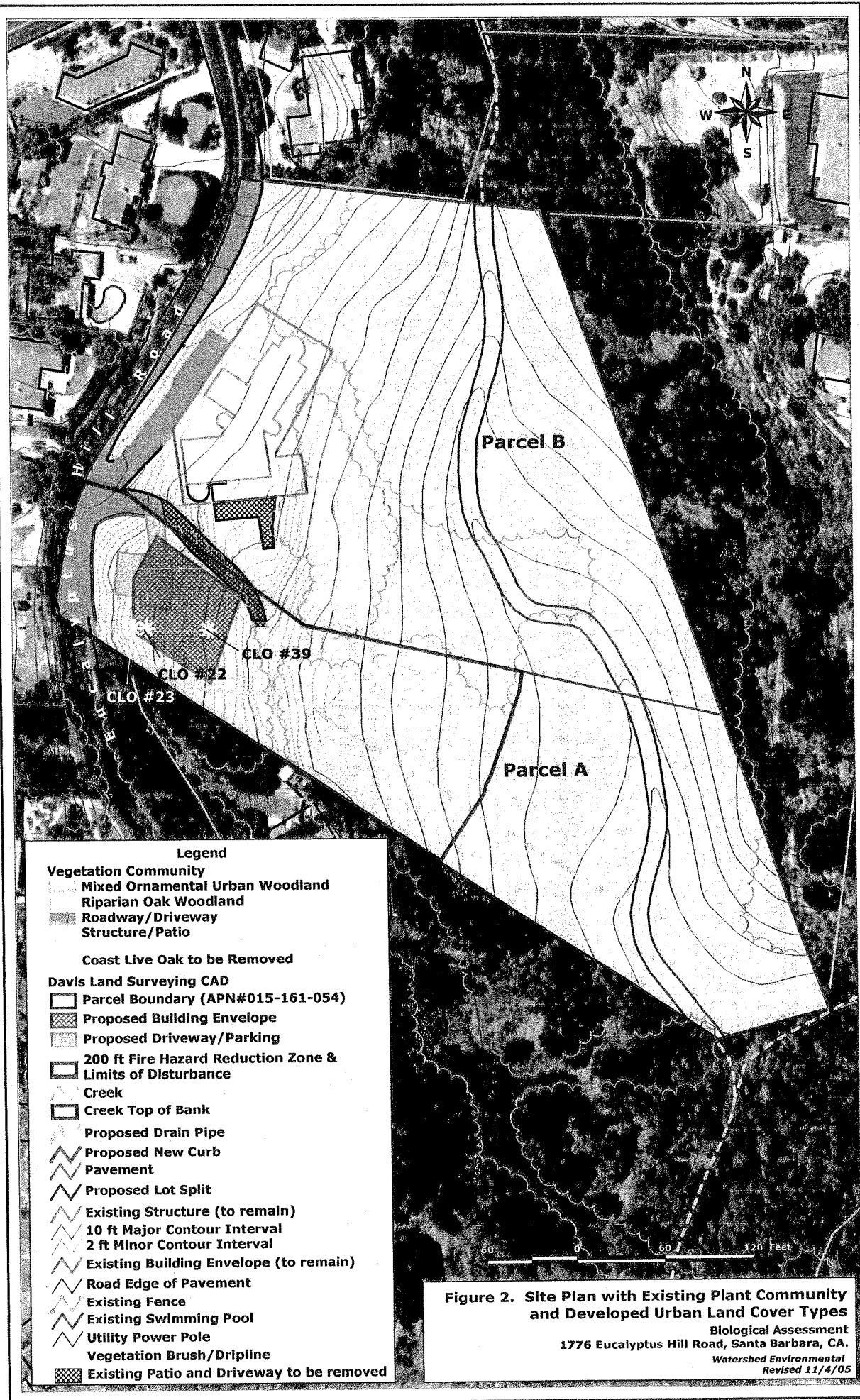
Figure 1. Location Map
Biological Assessment
1776 Eucalyptus Hill Road, Santa Barbara, CA
Watershed Environmental
Revised 11/4/05

Andre Clarke Watershed
Montecito Creek Watershed
Sycamore Creek Watershed

Parcel Boundary (APN #015-161-054)

Coastal Zone

Background Source: USGS 1:24000 Santa Barbara (1995) and Carpinteria (1995) TopoQuad



An additional improvement would be the removal of approximately ~~1,200~~ **2,100** sq. ft. of asphalt driveway. The only proposed activity on Parcel B is the removal of an existing 713-sq.-ft. patio on the south side of the existing residence. Other proposed improvements to Parcel A include the **underground** extension of an existing storm drain culvert from the east side of Eucalyptus Hill Road approximately 400 ft. eastward to the edge of the unnamed creek. Construction access to the storm drain extension would be ~~through an area in which vegetation is dominated by~~ via an existing dirt road **that passes through an oak woodland riparian forest.**

4.0 STUDY METHODOLOGY

Watershed Environmental biologist Mark de la Garza and analyst/cartographer Melodee Hickman performed a field survey of the property on May 13, 2005 between the hours of 9:00 am and 1:00 p.m. Surveys consisted of walking over the proposed development area and along the proposed storm drain culvert alignment and included the creek bed and channel bottom. Plant community/habitat types were mapped on a 1-in.=30-ft.-scale field map depicting topography that was laid over a June 25, 2003 color aerial photograph. A steel forester's measuring tape was used to measure the diameter at breast height (DBH) of individual trees and **the diameter of native trees 1 ft above ground level** within and immediately adjacent to the proposed development area. Field notes were used to record tree measurements and direct observations of botanical and wildlife resources. Photographs of the project site were taken to document existing conditions at the time of the surveys (Attachment 1). Botanical surveys were performed following the California Native Plant Society's recommended survey guidelines (CNPS 2001) and the US Fish and Wildlife Service's *Guidelines for Conducting and Reporting Botanical Inventories for Federally Listed, Proposed, and Candidate Plants* (USFWS 2001). Wildlife surveys followed standard professional practices and the Santa Barbara County *Biological Survey Guidelines* (SBCO 1995; contained in SBCO's *Environmental Thresholds and Guidelines Manual*, updated 2002).

Background biological information was obtained from the *City Creek Inventory and Assessment Study* (URS 2000), County of Santa Barbara resource maps (SBCO 1999), and the California Natural Diversity Data Base (CDFG 2004).

5.0 ENVIRONMENTAL SETTING

The parcel is within the city limits of Santa Barbara, but is outside of the Coastal Zone. **According to the City's 2004 Wildland Fire Plan, the parcel is located within the high fire-hazard Foothill Zone.** The zoning is single-family residential (A2 map symbol), with a minimum lot size of 25,000 sq. ft. The parcel is also within the city's Hillside Design District.

Elevations on the property range from 160 ft. above sea level in the southeast corner of the property to 290 ft. in the northwest corner of the property. The property slopes toward the east and has an average slope of 35 percent. The average slope within the proposed Parcel A development envelope is 28 percent. The average slope of the Parcel B development envelope, where the existing residence is located, is 5.4 percent. The eastern portion of the property contains approximately 630 linear ft. of the creek bed. The creek **is within the Andre Clarke Bird Refuge Watershed and** flows in a north-to-south direction. It has an average slope of 8.2 percent. **The Andre Clarke Watershed is 1.43 sq. mi. in size (Watershed Environmental**

2001). Approximately 90 percent of this watershed is developed. The only portions that are undeveloped are the bird refuge located at the lower end of the watershed and steeply sloped areas located in the upper portion of the watershed.

Soils on the property are mapped by the Soil Conservation Service (USDA 1977) as orthents (map symbol OAG), which in most locations is a stony, fine, sandy loam. The soil permeability is classified as moderate, the runoff rate rapid, and the erosion hazard high.

The parcel contains an existing 9,000-sq.-ft., single-family residence with a 713-sq.-ft. patio and stone/wood trellis on the south side of the residence. There is a 2,500-sq.-ft. asphalt-paved parking area on the west side of the residence and a 2,100-sq.-ft. asphalt-paved driveway on the south side of residence. The area around the existing residence is landscaped with a variety of non-native ornamental vegetation (refer to Figure 2).

The unnamed creek that traverses the eastern portion of the property is mapped by the USGS as an intermittent (dashed blue line) stream (USGS 1995). It conveys storm water runoff, excess landscape irrigation water, and groundwater seepage from the south side of Eucalyptus Hill. The width of the creek bed passing through the property is 8-12 ft. The creek bed has a natural bottom composed of sandstone boulders and cobbles. The creek bank (ordinary high-water mark) is 10-12 in. above the creek bed.

For the purposes of this assessment, the creek top-of-bank is mapped (refer to Figure 2) as being 6 ft. from either side of the creek center line. This roughly corresponds to the ordinary high-water mark. At the time of the survey, the creek had active surface water flow and was 1-3 in. deep.

6.0 DESCRIPTION OF BIOTIC RESOURCES

6.1 Vegetation and Land Cover

Vegetation and land cover mapping was performed by identifying the vegetation/land cover types on the ground and mapping the aerial extent on a 1 in. = 60-ft. color aerial photograph of the property. The mapped cover types were then scanned and converted into Geographic Information System (GIS) shapefiles so that area calculations and figures could be generated. We identified two different vegetation community types and three land cover types on the property (Table 1).

Habitat types present in the study area and upper portion of the Andre Clarke Watershed include mixed ornamental urban woodland, riparian oak woodland, and developed urban.

A description of each vegetation community and land cover type appears below. Table 2 is a list of plants observed during the May 13, 2005 survey.

Table 1. Existing Vegetation Communities and Land Cover Types

Vegetation Community/ Landcover Type	Parcel A (Acres)	Parcel B (Acres)	Total (Acres)
<i>Vegetation Communities</i>			
Mixed Ornamental Urban Woodland	0.36	0.53	0.89
Riparian Oak Woodland	1.28	1.56	2.84
<i>Developed Urban Land Cover Types</i>			
Private Driveway	0.02	0.08	0.10
Public Roadway	0.06	0.07	0.13
Structures	0.00	0.16	0.16
			4.12

Vegetation Communities

Mixed Ornamental Urban Woodland We classified the vegetation surrounding the existing residence on Parcel B and within the proposed Parcel A development envelope as mixed ornamental urban woodland. This area contains a mixture of ornamental trees, including acacia, pittosporum, myoporum, eucalyptus, and ash trees and a mixture of non-native and native herbaceous plants and shrubs. Dominant herbaceous plants in this area include: garden nasturtium, Italian thistle, smilo grass, wild oats, and Italian rye grass. Dominant shrubs include: lemonadeberry, poison oak, and western chokecherry. Although the majority of vegetation within the proposed Parcel A development envelope is non-native, there are a few coast live oak tree saplings growing beneath the eucalyptus canopy in the southern edge of the development envelope and a few native shrubs and herbaceous plants occurring in this community type.

Riparian Oak Woodland We have classified the area east of the existing (Parcel B) and proposed (Parcel A) development envelopes as riparian oak woodland. This plant community is defined based on the predominance of native coast live oak trees with an understory comprising primarily poison oak and wild blackberry. There are also many non-native pittosporum trees and dense patches of garden nasturtium.

Developed Urban Land Cover Types

Structures This land cover type includes the existing 9,000-sq.-ft. private residence on Parcel B and the 713-sq.-ft. patio on the south side of the residence.

Private driveways This land cover type includes existing paved (asphalt) parking areas and private driveways.

Public roadways This category includes the portion of Eucalyptus Hill Road (asphalt paved) that occurs on the property.

Table 2. Vegetation Species List

Scientific Name	Common Name	Native (N) Introduced (I)
<i>Acacia baileyana</i>	golden wattle acacia	I
<i>Acacia melanoxydon</i>	black acacia	I
<i>Acacia decurrens</i>	green wattle	I
<i>Anagallis arvensis</i>	scarlet pimpernel	I
<i>Aptenia cordifolia</i>	baby sunrose	I
<i>Avena fatua</i>	wild oat	I
<i>Brassica nigra</i>	black mustard	I
<i>Bromus diandrus</i>	ripgut grass	I
<i>Carduus pycnocephalus</i>	Italian thistle	I
<i>Cotoneaster pannosus</i>	silverleaf cotoneaster	I
<i>Eucalyptus citriodora</i>	lemon gum	I
<i>Euphorbia peplus</i>	petty spurge	I
<i>Fraxinus</i> sp.	ash	I
<i>Galium aparine</i>	cleaver's bedstraw	I
<i>Geranium dissectum</i>	cut-leaved geranium	I
<i>Hordeum murinum</i>	foxtail	I
<i>Lactuca serriola</i>	prickly lettuce	I
<i>Lolium multiflorum</i>	Italian rye	I
<i>Malva parviflora</i>	cheeseweed	I
<i>Marah macrocarpus</i> var. <i>macrocarpus</i>	wild cucumber	N
<i>Medicago polymorpha</i> var. <i>polymorpha</i>	burr clover	I
<i>Melilotus albus</i>	white sweet clover	I
<i>Myoporum laetum</i>	myoporum	I
<i>Olea europaea</i>	olive tree	I
<i>Oxalis pes-caprae</i>	sour-grass	I
<i>Pholistoma auritum</i>	fiesta flower	N
<i>Picris echioides</i>	bristly ox tongue	I
<i>Piptatherum miliaceum</i>	rice grass	I
<i>Pittosporum undulatum</i>	orange pittosporum	I
<i>Prunus virginiana</i> (cultivar)	western chokecherry	I
<i>Quercus agrifolia</i>	coast live oak	N
<i>Raphanus sativus</i>	wild radish	I
<i>Rhus integrifolia</i>	lemonadeberry	N
<i>Rubus ursinus</i>	wild blackberry	N
<i>Rumex crispus</i>	curly dock	I
<i>Solanum douglasii</i>	Douglas' nightshade	N
<i>Sonchus asper</i>	spiny sowthistle	I
<i>Toxicodendron diversilobum</i>	poison oak	N
<i>Tropaeolum majus</i>	garden nasturtium	I
<i>Yucca</i> sp.	yucca	I

6.2 Wildlife

Bird species observed and/or detected during performance of the May 13, 2005 survey include acorn woodpecker (*Melanerpes formicivorus*), American crow (*Corvus brachyrhynchos*), northern mockingbird (*Mimus polyglottos*), house sparrow (*Passer domesticus*), Anna's hummingbird (*Calypte anna*), western scrub jay (*Aphelocoma californica*), California towhee (*Pipilo crissalis*), spotted towhee (*Pipilo maculatus*), purple finch (*Carpodacus purpureus*), house finch (*Carpodacus mexicanus*), mourning dove (*Zenaida macroura*), and red-tailed hawk (*Buteo jamaicensis*). Other birds expected to frequent the site include: California quail (*Callipepla californica*), downy and Nuttall's woodpeckers (*Picoides pubescens*, *P. nuttallii*), western flycatcher (*Empidonax difficilis*), European starling (*Sturnus vulgaris*), song sparrow (*Melospiza melodia*), white-crowned and golden-crowned sparrows (*Zonotrichia leucophrys*, *Z. atricapilla*), and lesser goldfinch (*Carduelis psaltria*). **In addition to the one raptor observed (a red-tailed hawk), the following raptors are expected to utilize mixed ornamental woodland and riparian oak woodland habitat: sharp-shinned hawk (*Accipiter striatus*), Cooper's hawk (*Accipiter cooperii*), red-shouldered hawk (*Buteo lineatus*), and American kestrel (*Falco sparverius*).**

While no mammals were seen during performance of the survey, the following mammals are expected to occur in the area: raccoon (*Procyon lotor*), mule deer (*Odocoileus hemionus*), Virginia opossum (*Didelphis virginiana*), striped skunk (*Mephitis mephitis*), California ground squirrel (*Spermophilus beecheyi*), western gray squirrel (*Sciurus griseus*), Merriam's chipmunk (*Tamias merriami*), Botta's pocket gopher (*Thomomys bottae*), dusky-footed woodrat (*Neotoma fuscipes*), deer mouse (*Peromyscus maniculatus*), brush mouse (*Peromyscus boylii*), California mouse (*Peromyscus californicus*), and black rat (*Rattus rattus*). Domestic cats and dogs are also expected to frequent the property.

The following amphibians and reptiles are expected to occur on the property and/or in the immediate vicinity: black-bellied slender salamander (*Batrachoseps nigriventris*), Pacific tree frog (*Hyla regilla*), California alligator lizard (*Elgaria multicarinata*), and western fence lizard (*Sceloporus occidentalis*). **After we surveyed the available aquatic habitat present in the study area, we concluded that there is no potential (none) for southern steelhead (*Oncorhynchus mykiss iridius*) to occur in the study area, because the unnamed drainage that passes through the study area does not have year-round surface water flow and does not contain any pools that are capable of supporting juvenile fish. We also concluded that there is a very low potential (unlikely) for coast range newt (*Taricha torosa torosa*), California red-legged frog (*Rana aurora draytonii*), southwestern pond turtle (*Emys* (= *Clemmys*) *marmorata pallida*), or two-striped garter snake (*Thamnophis hammondi*) to occur in the study area given the ephemeral nature of the drainage and lack of connectivity (fragmentation) between suitable undeveloped natural habitat.**

Wildlife movement in the portion of the watershed where this project occurs is constrained by fencing, roadways, stormdrain culverts, and structures. The unnamed drainage channel in the eastern portion of the property is the only area where wildlife movement is unconstrained. However, wildlife movement within this drainage is obstructed approximately 600 ft. north of

the study area, where it passes beneath Eucalyptus Hill Road, and 1,330 ft. south of study area, where it passed beneath Scenic Drive.

The assemblage of wildlife species observed and potentially occurring on the property is limited to those species adapted to living in an urban environment. The wildlife described above is not intended to be a complete list of all species potentially present on the property. Other species may periodically use and/or visit the site, but are not expected to breed or establish residency there.

6.3 Sensitive Species

Sensitive species considered in this assessment are those protected by the federal Endangered Species Act and/or the California Endangered Species Act, and those species meeting the California Environmental Quality Act definition of "rare." This includes all endangered or threatened species, candidates for listing, or species of special concern listed by the federal and state governments and plants listed by the California Native Plant Society (CNPS) as List 1 or List 2 species.

Several sensitive species are mapped by the California Department of Fish and Game's California Natural Diversity Database (CNDDDB 2004) as occurring within one mi. of the property (Table 3). A map depicting the location of these sensitive species records is provided in Figure 3.

Table 3. Sensitive Species List

Common Name	Scientific Name	Status	Comment
tidewater goby	<i>Eucyclogobius newberryi</i>	federally endangered	Known to occur in Sycamore Creek. No suitable habitat present on the property.
western snowy plover	<i>Charadrius alexandrinus nivosus</i>	federally threatened	Known to occur along east beach. No suitable habitat present on the property.
mesa horkelia	<i>Horkelia cuneata</i> subsp. <i>puberula</i>	CNPS List-1B	CNDDDB record from 1974 approximately 0.6 mi. north of the property.
Santa Barbara honeysuckle	<i>Lonicera subspicata</i> var. <i>subspicata</i>	CNPS List-1B	CNDDDB record from 1925 approximately 0.6 mi. north of the property.

No sensitive wildlife species are known or anticipated to occur on the property or in the immediate vicinity of the project site. The lack of suitable habitat for tidewater goby and western snowy plover on the property precludes their occurrence. As part of our survey, we performed a binocular search for any active and/or abandoned raptor nests on and adjacent to the property. None were found.

Surveys for the two rare plants with a potential for occurrence in the project area were performed on May 13, 2005. Neither of these plants nor any other sensitive plants were found on the property.

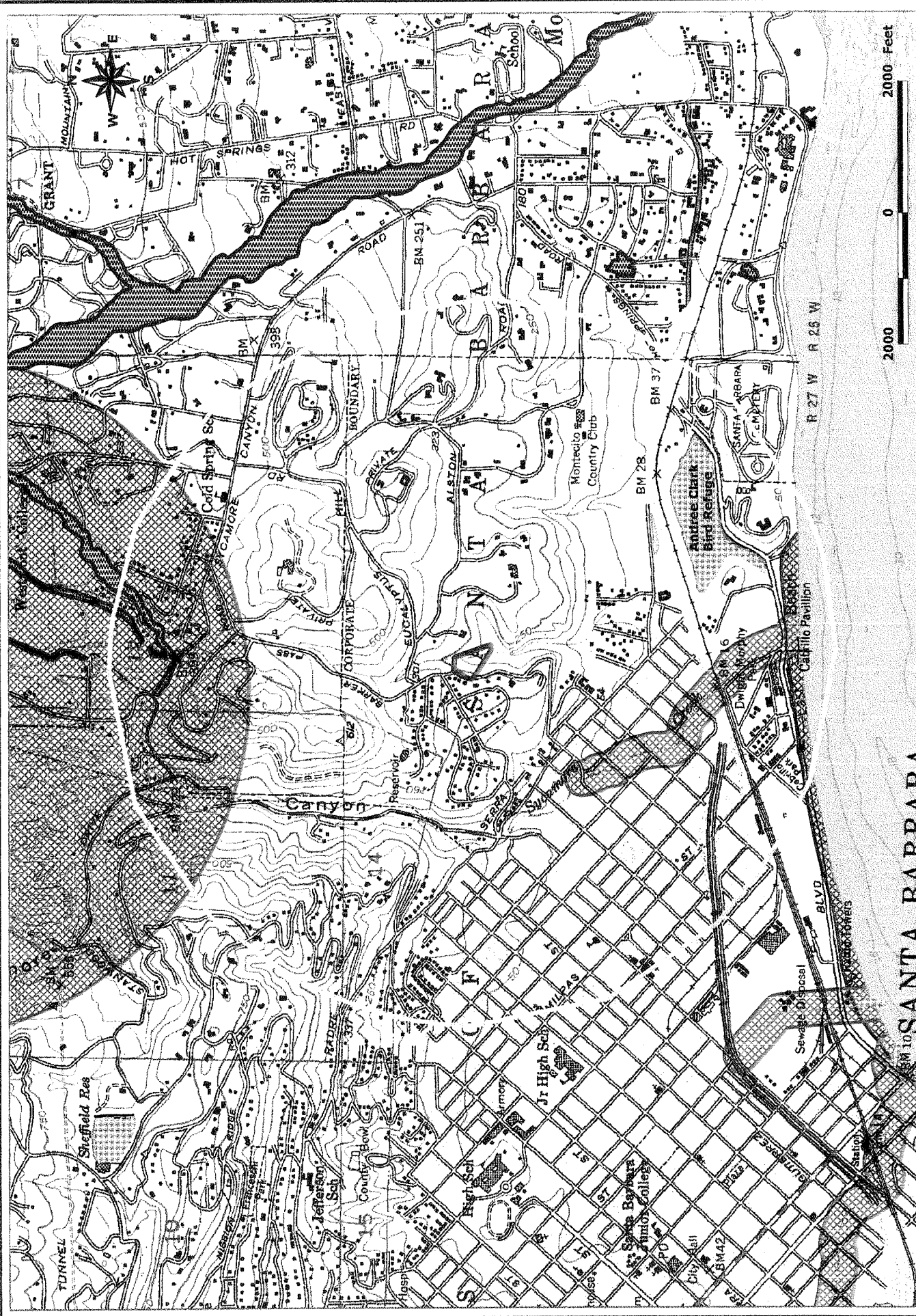


Figure 3. Known Sensitive Biological Resources in Project Vicinity

Biological Assessment
1776 Eucalyptus Hill Road, Santa Barbara, CA
Watershed Environmental
Revised 11/4/05

California Natural Diversity Database within 1 mile of Parcel (12/04)

- mesa horkelia & Santa Barbara honeycuckle
- tidewater goby
- Western snowy plover

Parcel Boundary (Apn#015-161-054)

1 mile Parcel Buffer

Santa Barbara County

Environmentally Sensitive Habita (ESH)

National Wetlands Inventory Wetland (NWI)

Background Source: USGS 1:24000 Santa Barbara (1995) and Carpiinteria (1995) TopoQuad

7.0 SPECIAL STUDIES REQUIRED: ANALYSIS OF BUFFER ADEQUACY

The development of previously undeveloped areas—particularly those adjacent to creeks—increases environmental stress to biota associated with wetland habitats. Aquatic resources may be exposed to higher levels of noise, light, heat, pollutant loading, stormwater runoff, invasive species, and human activity. Development (i.e., paving and construction of buildings) can also affect the hydrologic regime by covering the soil surface with impervious materials and compacting it. These activities contribute to water-quality and flooding problems by increasing the rate and magnitude of storm runoff. The net result within a watershed is cumulative and often leads to a reduction in wetland and stream functional value (Castelle et al. 1994).

A common method for reducing or eliminating impacts to aquatic resources from adjacent land use is to maintain buffers around these sensitive resources. The proposed Parcel A development envelope is approximately 300 ft. west of the unnamed creek bank located in the eastern portion of the property. This development envelope is also approximately 75 ft. from the edge of the riparian oak woodland canopy (refer to Figure 2). The only construction activity proposed between the Parcel A building envelope and the creek bank is the removal of approximately 1,200 2,100 sq. ft. of asphalt driveway and the extension of a **12-in.-diameter, buried** storm drainpipe from the edge of Eucalyptus Hill Road **825 ft.** to the creek bank.

7.1 Background Buffer Information

Buffers. Buffers are defined as “vegetated zones located between natural resources and adjacent areas subject to human alteration” (Castelle et al. 1994). Buffers are either measured from the outside edge of the riparian zone or include the riparian zone, but not the active channel area. A biological report on the riparian habitats of our South Coast region states: “... buffers, which include native plants, should be designed to provide some habitat values as well as aesthetic values. They should serve as a transition zone between the orderly urban landscape and the naturally random riparian forest” (Faber et al. 1989).

Buffer-Size Criteria. Four criteria have been identified for determining adequate buffer sizes for aquatic resources (Castelle et al. 1994):

1. Resource functional value
2. Intensity of adjacent land use
3. Buffer characteristics
4. Specific buffer functions required

Generally, smaller buffers are adequate when the buffer is in good condition (e.g., dense native vegetation, undisturbed soils); the wetland or stream is of relatively low functional value (e.g., high disturbance regime, dominated by nonnative plants); and the adjacent land use has low impact potential (e.g., park land, etc.). Larger buffers are necessary for high-value wetlands and streams that are buffered from intense adjacent land uses (e.g., industrial hardscape, intense agriculture, or livestock).

Buffer Functions. According to a comprehensive review and synthesis from more than 40 scientific studies (Castelle et al. 1994), buffers serve the following essential functions:

- **Sediment removal and erosion control.** Buffers moderate stormwater and overland sheet flow by slowing velocities and promoting infiltration.
- **Excess nutrient and metal removal.** Plant buffers remove metals from automobile debris and excess nutrients from landscaping runoff and domestic animals by filtering stormwater and actively uptaking the pollutants.
- **Maintenance of habitat diversity.** Numerous flora and fauna are completely dependent on the aquatic-terrestrial interface for residence, nesting, and/or forage (e.g., wood ducks and Pacific tree frogs, locally).
- **Wildlife species distribution and diversity.** Bird species' diversity, richness, relative abundance, and breeding numbers have been positively correlated with wetland buffer size.
- **Reduction of human impact.** Buffers protect the riparian system from direct human impact through limiting easy access to the riparian corridor and by blocking or attenuating the conveyance of noise, light, odors, and debris.

Riparian Corridors. Riparian corridors and their buffers often afford most of the green space in urban environments. This riparian corridor and green space allows animals and birds to travel through the urban landscape with some protection from humans and domestic animals in *wildlife corridors*. An inverse relationship has been found between buffer width and direct human disturbance to wetlands and riparian corridors.

Value of Riparian Corridors. *The Ecology of Riparian Habitats of the Southern California Coastal Region* (Faber et al. 1989) study states, "There is a need to link riparian wildlife corridors whenever feasible, rather than to allow continued isolation of small riparian groves. The authors further state that there is a need to re-establish connections between riparian groves separated by development. ... Riparian corridors can add aesthetic qualities as well as biological values to the property."

Riparian Migratory Corridors. Wildlife uses the riparian-forested connectors for cover while traveling across otherwise open areas. Small mammals and birds use riparian dispersal routes to scatter from their original habitats as a result of population pressures or food or water shortages. Riparian zones provide cover, food, and water during such movements (Faber et al. 1989). The report states that, "In more urban areas, the remnants of riparian vegetation along a neglected creek often provide the only refuge for wildlife."

Three-zone buffer system. The Natural Resources Conservation Service (USDA 1999) report defines and describes a three-zone buffer system. These three zones are as follows:

- **Streamside zone** (Zone 1) protects the physical and ecological integrity of the stream ecosystem. The minimum recommended width is 15 ft. The primary function of this zone is moderation of water temperature and provision of aquatic habitat. The vegetative target is mature riparian forest.

- **Middle zone** (Zone 2) extends from the outward boundary of the streamside zone and varies in width depending on stream order, the extent of the 100-yr. floodplain, adjacent steep slopes, and protected wetland areas. Its key functions are to provide further distance between upland development and the stream. The vegetative target for this zone is also mature forest, but some clearing may be allowed for storm water management, access, and recreational uses.
- **Outer zone** (Zone 3) is the "buffer." The minimum recommended width is 25 ft. from the outer edge of the middle zone to the nearest permanent structure. The primary function of this zone is to improve water quality by reducing the sediment load and filtering out pollutants from storm water and irrigation runoff. The vegetative target for the outer zone is usually turf or lawn, although property owners are encouraged to plant trees and shrubs to provide wildlife habitat.

7.2 Analysis of Proposed Project Impact on Creek Buffer Functions

The proposed Parcel A building envelope is located approximately 75 ft. away from the outer edge of the oak woodland riparian forest. This forest comprises the middle (Zone 2) buffer area. The outer zone (Zone 3) on this property contains mixed ornamental non-native landscape vegetation. The only activity proposed within the middle (Zone 2) buffer zone is the extension of the storm drain culvert from Eucalyptus Hill road to the edge of the creek bank.

Constraints

The main constraints to biological functions of the creek buffer zones are surrounding land use and human disturbance. The creek in the vicinity of the project site is surrounded by residential development. The vegetation growing in the streamside (buffer Zone 1) and middle (Zone 2) creek buffer zones provides relatively high biological value to wildlife, but could be substantially improved by removal of non-native trees and non-native understory vegetation.

Buffer zone water quality functions of erosion control and nutrient uptake are limited by the steep slopes present on the property and the concentration of runoff from roadways and urbanized areas. The existing storm drain outlet on Parcel A discharges surface water runoff from Eucalyptus Hill Road and upslope developed areas. The storm drain outlet is located 400 ft. from the edge of the creek bank and is causing substantial soil erosion on the slope between the storm drain outlet and the creek. This soil erosion is degrading the water quality of the creek and the Andree Clark Bird Refuge. The proposed project will extend this storm drainpipe to the edge of the creek bank and will eliminate this erosion and water-quality problem.

Opportunities

The riparian buffer zones on this property provide opportunities to improve wildlife and plant habitat functions by removing non-native trees, shrubs, and groundcover vegetation from the riparian oak woodland (Zones 1 and 2) and planting appropriate native vegetation.

The site also affords an excellent opportunity to improve water quality by eliminating erosion of the hillslope caused by the existing Eucalyptus Hill Road storm drain outlet. The property owner, as part of his project description, has already agreed to

remedy this problem by extending the storm drain culvert to the edge of the creek bank.

7.3 Buffer Recommendations

Given the site conditions, buffer functions, and opportunities, we recommend that the proposed residential development on Parcel A include a 25-ft.-wide outer (Zone 3) riparian buffer zone from the edge of the oak riparian forest. This buffer zone would provide a transition area between the riparian woodland and the proposed residence. The existing non-native trees and shrubs in this outer buffer zone should be removed and the area should be landscaped with appropriate native vegetation.

We also recommend that all non-native trees, shrubs, and groundcover vegetation be removed from the riparian oak woodland that comprises the streamside and middle riparian buffer zones. Any replacement plantings and/or landscaping in the oak woodland should be native plants from local seed/cutting stock.

8.0 PROJECT IMPACTS

This section describes the potential short-term and long-term impacts to biological resources resulting from construction of the proposed project. Short-term impacts are those associated with site preparation and construction. Long-term impacts are those that would persist after construction during occupation of the residence.

The California Environmental Quality Act (CEQA) requires that the potential effects of a project be evaluated by the lead agency responsible for issuing a permit. In this case, the City of Santa Barbara is the lead agency. Environmental effects are considered to have a "significant effect on the environment" if they cause a substantial or potentially substantial adverse change in any of the existing physical conditions within the area affected by the project (CEQA Guidelines 15382).

To facilitate the CEQA environmental review of the project, we have classified biological impacts into the following categories:

- a. beneficial
- b. adverse, significant, and non-mitigable
- c. adverse, significant, and mitigable
- d. adverse and not significant
- e. none, no impact

8.1 Botanical Resources

Impact 1. Vegetation Removal within Development Area

A total of 53 trees will be removed from within the Parcel A building envelope (Table 4): 35 acacia, 6 pittosporum, 7 myoporum, 3 coast live oak saplings, and 2 ash. Non-native trees and non-native vegetation present in this area provide wildlife habitat. However, the value of this habitat is limited because most of the vegetation present in this area is primarily non-native and is in close proximity to other residences and Eucalyptus Hill Road. The only native plants that will be removed from the Parcel A development envelope are **three coast live oak tree saplings, and a few** wild cucumber, fiesta flower, lemonadeberry, wild blackberry, Douglas' nightshade, and poison oak **shrubs**. Table 5 contains a summary of impacts to vegetation from the proposed project. The proposed extension of the storm drainpipe

is not expected to require the removal of any trees **because the alignment will follow an existing dirt road.**

Short-term impacts caused by removal of non-native trees, three Coast Live Oak saplings and other vegetation from the Parcel A development envelope is considered adverse and not significant but may require mitigation to comply with city biological resource protection policies.

Long-term impacts caused by removal of non-native trees, three Coast Live Oak saplings and other vegetation from the Parcel A development envelope is also considered adverse and not significant but may require mitigation to comply with city policy. Impacted Coast Live Oaks #22 and #23 do not have diameters larger than 4" measured at 12" above ground level and thus are not subject to Municipal Code requirements (SBMC 15.24.030). Impacted Coast Live Oak #39 with a measured diameter of 6.8" at 12" above ground level is subject to the Municipal Code. We recommend that replacement Coast Live Oak mitigation be included in landscape plans for the new structure.

Table 4. Trees Impacted by Parcel A Development

ID No.	Common Name	Latin Name	DBH (inches)
1	golden wattle acacia	<i>Acacia baileyana</i>	9.9, 4.0
2	golden wattle acacia	<i>Acacia baileyana</i>	5.8
3	golden wattle acacia	<i>Acacia baileyana</i>	2.6
4	golden wattle acacia	<i>Acacia baileyana</i>	2.7, 4.9
5	orange pittosporum	<i>Pittosporum undulatum</i>	4.9
6	golden wattle acacia	<i>Acacia baileyana</i>	3.8
7	golden wattle acacia	<i>Acacia baileyana</i>	4.8
8	golden wattle acacia	<i>Acacia baileyana</i>	3.9
9	ash	<i>Fraxinus sp.</i>	15.2, 8.2
10	ash	<i>Fraxinus sp.</i>	8.4, 3.4, 3.6
11	golden wattle acacia	<i>Acacia baileyana</i>	2.1
12	black acacia	<i>Acacia melanoxylon</i>	1.7, 1.0
13	orange pittosporum	<i>Pittosporum undulatum</i>	3.6, 3.5
14	orange pittosporum	<i>Pittosporum undulatum</i>	4.5
15	orange pittosporum	<i>Pittosporum undulatum</i>	4.8
16	black acacia	<i>Acacia melanoxylon</i>	13
17	green wattle	<i>Acacia decurrens</i>	9.9
18	golden wattle acacia	<i>Acacia baileyana</i>	4.5
19	orange pittosporum	<i>Pittosporum undulatum</i>	5.2, 4.8, 2.8
20	black acacia	<i>Acacia melanoxylon</i>	8.2
21	black acacia	<i>Acacia melanoxylon</i>	5.2
22	coast live oak	<i>Quercus agrifolia</i>	2.2, 2.1
23	coast live oak	<i>Quercus agrifolia</i>	6.4
24	orange pittosporum	<i>Pittosporum undulatum</i>	3.3, 7.8, 4.4, 2.6
25	green wattle	<i>Acacia decurrens</i>	16.6

ID No.	Common Name	Latin Name	DBH (inches)
26	black acacia	<i>Acacia melanoxylon</i>	9
27	black acacia	<i>Acacia melanoxylon</i>	5
28	black acacia	<i>Acacia melanoxylon</i>	8.4
29	black acacia	<i>Acacia melanoxylon</i>	9
30	black acacia	<i>Acacia melanoxylon</i>	9.3, 2.6
31	golden wattle acacia	<i>Acacia baileyana</i>	4, 6
32	black acacia	<i>Acacia melanoxylon</i>	4.2
33	black acacia	<i>Acacia melanoxylon</i>	1.8
34	black acacia	<i>Acacia melanoxylon</i>	3.9, 2.1
35	black acacia	<i>Acacia melanoxylon</i>	8.2
36	black acacia	<i>Acacia melanoxylon</i>	5.1
37	black acacia	<i>Acacia melanoxylon</i>	10
38	black acacia	<i>Acacia melanoxylon</i>	3.4, 4.8
39	coast live oak	<i>Quercus agrifolia</i>	3, 2, 1, 2
40	black acacia	<i>Acacia melanoxylon</i>	<1
41	black acacia	<i>Acacia melanoxylon</i>	<1
42	black acacia	<i>Acacia melanoxylon</i>	<1
43	black acacia	<i>Acacia melanoxylon</i>	<1
44	black acacia	<i>Acacia melanoxylon</i>	<1
45	black acacia	<i>Acacia melanoxylon</i>	<1
46	black acacia	<i>Acacia melanoxylon</i>	<1
47	myoporum	<i>Myoporum laetum</i>	<1
48	myoporum	<i>Myoporum laetum</i>	<1
49	myoporum	<i>Myoporum laetum</i>	<1
50	myoporum	<i>Myoporum laetum</i>	<1
51	myoporum	<i>Myoporum laetum</i>	<1
52	myoporum	<i>Myoporum laetum</i>	<1
53	myoporum	<i>Myoporum laetum</i>	<1

Table 5. Summary of Impacts to Vegetation Communities

Vegetation Community	Parcel A Building Envelope (Acres)	200-ft. Fuel Mod. Area (Acres)	Total (Acres)
Mixed Ornamental	0.11	0.23	0.34
Riparian Oak Woodland	0.00	0.34	0.34
Total			0.68

Impact 2. Vegetation Removal Associated with Fire Hazard Reduction

A new California state law (Public Resources Code 4291-4299) passed in April 2005 requires a mandatory 100-ft.-wide fire hazard reduction zone for all structures. This zone extends out 100 ft. or to the property line and in this instance is approximately 0.77 acres in size, excluding the Parcel A building envelope.

In addition, the City of Santa Barbara's Wildland Fire Plan (which takes precedence over the above state law) mandates the management of fuel beyond 100 ft. in areas with greater than 20 percent slope. The average

slope within the proposed Parcel A development envelope is 28 percent; the average slope of the Parcel B development envelope, where the existing residence is located, is 5.4 percent. Thus, fuel management would be required for Parcel A's proposed development for a distance of 200 ft. from any structure. According to the *Wildland Fire Plan*, oaks may remain within this buffer if all dead wood is removed and lower branches are trimmed and limbed to 6 ft. above the ground and if they do not constitute a means for fire to move rapidly to a structure.

The *Wildland Fire Plan* designates the area where the project site is located as a high-fire-hazard area within the Foothill Zone, but it is also within the City's 4-minute response time area, unlike eastern Eucalyptus Hill Road. The property is also within the Plan's 63-acre Eucalyptus Hill Vegetation Management Unit. The Foothill Zone includes the northwest and northeast portions of the City's high fire-hazard area. Neighborhoods include Cielito, Riviera, Lower Riviera, Eucalyptus Hill, Foothill, the San Roque area north of Foothill Road, and the area surrounding Stevens Park. The potential fire behavior in this zone is considered high to extreme depending on weather and fuel conditions. This zone is defined as areas within the City where a combination of flammable chaparral, oak forest, riparian vegetation, eucalyptus groves, and landscaped fuels intermix with residential areas to pose a significant fire threat. The eucalyptus groves within this area are extensive, dense, and have significant accumulations of dead fuel that threaten the areas surrounding them. Slopes range from between 20 to 40 percent, and many slopes have southeast, south, and southwest aspects. Canyons within this zone are directly aligned to severe, hot dry wind conditions.

Within the fire hazard reduction zone, the removal of dead tree limbs, maintenance of landscape trees and shrubs, and mowing of grasses and other non-landscape vegetation to a height of 18 in. or less is required. The location of the **200-ft.** fire hazard reduction zone from the edge of the proposed Parcel A building envelope is depicted in Figure 2. **The vegetation within this area is primarily mixed ornamental vegetation with some riparian oak woodland vegetation present toward the outer eastern edge of the fire hazard reduction zone. Most of the vegetation that would be removed and/or pruned within this fire hazard reduction zone is non-native. No specimen trees or mature oak trees would be removed.** Some pruning of oak trees and eucalyptus trees will likely be required, as will the removal of three coast live oak trees (Nos. 22, 23, and 39), which cannot be avoided. Refer to Figure 2 for location of trees that will be removed. A permit from the Parks and Recreation Department will be necessary to remove tree No. 23 because it has a diameter of 6.8 in. measured one ft above ground level. (City of Santa Barbara 2003). Fuel management will only be performed on the newly created lot, and will not continue into neighboring properties.

Short-term impacts caused by removal of non-native trees and other vegetation from the mandatory **200 ft.** fire hazard reduction zone around the perimeter of the Parcel A development envelope is considered adverse and not significant **because almost all of the vegetation present in this area is non-native, and none of the native species that would be removed are considered sensitive.**

Long-term impacts caused by removal of non-native trees and other vegetation from the mandatory **200 ft.** fire hazard reduction zone around the perimeter of the Parcel A development envelope is also considered adverse and not significant **because almost all of the vegetation present in this area is non-native, and none of the native species that would be removed are considered sensitive.**

8.2 Wildlife

Impact 3. Wildlife Habitat Alteration/Loss

The wildlife species present within the proposed Parcel A building envelope and fire hazard reduction zone are adapted to an urban environment. These species are considered common and are expected to relocate temporarily during site preparation and construction and to reestablish themselves upon completion of construction.

Short-term wildlife habitat alteration/loss impacts within the Parcel A building envelope and fire hazard reduction zone and **along the proposed storm drainpipe alignment** are considered adverse and not significant.

Long-term wildlife habitat alteration/loss impacts within the Parcel A building envelope and fire hazard reduction zone, and along the storm drainpipe alignment are considered none, no impact.

Impact 4. Increased Noise and Light Wildlife Disturbance

Development of the proposed project will incrementally increase the already high human presence in the area. Heavy equipment operation and construction noise will cause short-term impacts. Long-term impacts will occur with increased human utilization, an increase in noise, and the addition of exterior lighting around the new residence. This increased noise and light has the potential to disrupt wildlife usage near the new Parcel A residence. However, this area is already subject to high levels of noise and light from vehicle traffic on Eucalyptus Hill Road and the net increase will be small.

Short-term impact of increased noise and light on wildlife is considered adverse and not significant.

Long-term impact of increased noise and light on wildlife is considered adverse and not significant.

8.3 Sensitive Species

Impact 5. Direct and Indirect Impacts to Sensitive Species

The nearest locations for sensitive species are East Beach and near the intersection of Barker Pass Road and Sycamore Canyon Road (respectively 1 mile and 0.6 miles away). No sensitive wildlife species were found on the property, nor are they expected to occur due to lack of suitable habitat. Surveys were also performed for raptor nests and none were found. Surveys for rare plants were performed.

No direct impact to sensitive species is anticipated in either the long or short terms. Direct impacts to sensitive species are classified as none, no impact.

Short-term indirect impacts to sensitive species are not anticipated due to the distance of the project site from these resources and are classified as none, no impact.

Long-term indirect impacts to sensitive species are also not anticipated due to the distance of the project site from these resources and are classified as none, no impact.

8.4 Water Quality & Groundwater Recharge

Impact 6. Erosion and Sedimentation of Unnamed Creek

Erosion causes sedimentation of creeks and degrades the water quality of creeks. Suspended sediment is detrimental to aquatic biota and can smother invertebrates and amphibian eggs, elevate water temperatures, and correspondingly decrease dissolved oxygen levels. The greatest potential for sediment release is during the winter and during the site preparation and construction phases of this project. After project completion, the project is expected to result in a net decrease from existing conditions in erosion and sediment discharge from the property.

Short-term impacts to water quality from erosion and sedimentation are considered adverse, significant, and mitigable.

Long-term impacts to water quality from erosion and sedimentation are considered beneficial.

Impact 7. Impermeable Surfaces' Effect on Groundwater Recharge

This proposed project would remove approximately ~~1,200~~ 2,100 sq. ft. of asphalt paving from the existing driveway and 715 sq. ft. of patio and would allow development of a single-family residence in a 5,000-sq.-ft. building envelope. The net effect of this project on groundwater recharge is an increase in the amount of impermeable surface area by approximately ~~3,085~~ 2,185 sq. ft. This increase in impermeable surface area will increase the amount of surface water runoff from the property and decrease groundwater recharge. However, given the relatively small size of the decrease in the amount of permeable surface, the groundwater recharge effect will be incrementally small. As part of the proposed project, the applicant is proposing to install two below-ground 2,500-gal. pre-cast concrete cisterns beneath the Parcel A garage. The purpose of these cisterns is to collect stormwater runoff from the new residence roof drains and slowly release the water to offset the project's effects on peak discharge and groundwater recharge. The applicant's engineers, Flowers & Associates Inc., performed a hydrologic analysis of the pre-and post development site conditions and concluded that these cisterns will completely offset the project's effects on peak discharge during a 100-year storm event (Flowers and Associates Inc. 2005). Thus, Parcel A's pre- and postdevelopment (with cisterns) peak discharge during 100-year storm event is calculated to be 1.40 cfs. Incorporation of the cisterns in the project design is part of the proposed project and for the purposes of this assessment is considered to be applicant-proposed mitigation.

Short-term impacts to groundwater recharge are considered adverse and not significant.

Long-term impacts to groundwater recharge are also considered adverse and not significant.

Impact 8. Riparian Habitat Protection

The applicant has not proposed to provide a formal riparian buffer zone in his project description. He has, however, placed the proposed Parcel A building envelope approximately 75 ft. from the outer edge of the riparian oak woodland canopy. We did not receive and/or review any landscape plans as part of this assessment and did not evaluate whether or not landscaping would encroach into the riparian oak woodland east of the proposed Parcel A building envelope.

Short-term impacts to the riparian oak woodland are considered adverse, significant, and mitigable.

Long-term impacts to the riparian oak woodland are considered adverse, significant, and mitigable.

9.0 RECOMMENDED MITIGATION MEASURES

The California Environmental Quality Act (CEQA) requires that feasible mitigation measures or alternatives be incorporated into the project description in order to avoid or mitigate the effects to a point at which clearly no significant effect on the environment will occur. The actual incorporation of mitigation into the project description depends on the type of CEQA document prepared, and can consist of applicant-proposed mitigation and/or lead agency permit condition requirements. In either case, mitigation measures are required for impacts identified as adverse and potentially significant.

Impacts identified as "adverse, significant, and non-mitigable" are those for which the implementation of mitigation measures will not reduce the impact to an insignificant level. Adverse, significant, and non-mitigable impacts require a finding of overriding consideration by the lead agency. Impacts identified as "adverse, significant, and mitigable" are those that can be reduced to an insignificant level by implementation of appropriate mitigation measures. Mitigation measures are not required under CEQA for impacts identified as "adverse and not significant." However, the lead agency can recommend mitigation measures to further reduce impacts consistent with local policy goals and objectives.

Mitigation 1. Vegetation Removal within Development Area

Mitigation is not required for Non-Native Trees and Vegetation because the short- and long-term impacts, while adverse, are not considered significant. **However, since the project is located within the city's Hillside Design District, a vegetation removal permit is required before any trees with a diameter of 4 in. or more (measured 1 ft. above ground level) may be removed. Since only one (Tree No. 23) of the three Coast Live Oak tree saplings that will be removed meets the size requirement to trigger a vegetation removal permit, we believe a revegetation/ restoration plan is not necessary. Instead we recommend that a replacement plan for the three removed Coast Live Oaks be included in the landscape plans for the new structure.**

Mitigation 2. Vegetation Removal Associated with Fire Hazard Reduction

Mitigation is not required because the short- and long-term impacts, while adverse, are not considered significant. However, since the project is located within the city's Hillside Design District, should the Fire Department require removal of any trees, a vegetation removal permit will be required before any trees may be removed. In

addition, the landscaping around the Parcel A building envelope must conform to the City of Santa Barbara's **2004 Wildland Fire Plan**.

Mitigation 3. Wildlife Habitat Alteration/Loss

Mitigation is not required because the short- and long-term impacts, while adverse, are not considered significant.

Mitigation 4. Increased Noise and Light-Wildlife Disturbance

Mitigation is not required because the short- and long-term impacts, while adverse, are not considered significant. However, we strongly recommend that low-watt outdoor light fixtures be used where possible and that exterior lighting be shielded to point downward.

Mitigation 5. Direct and Indirect Impacts to Sensitive Species

No mitigation is required or recommended, as short- and long-term impacts are considered to be none, no impact.

Mitigation 6. Erosion and Sedimentation of Unnamed Creek

Mitigation for potential short-term impacts is necessary to prevent sediment release during site preparation and construction. This shall include the installation of appropriate erosion/sediment control devices between the construction zone and offsite areas. No mitigation is proposed for long-term impacts, as they are anticipated to be beneficial.

Mitigation 7. Impermeable Surfaces' Effect on Groundwater Recharge

Mitigation is not required because the short- and long-term impacts, while adverse, are not considered significant. However, we recommend that permeable/porous paving materials be utilized where possible to reduce the impermeability of hardscape surfaces. In addition, discharge from the two cisterns that will be located beneath the garage should be directed **into a bioswale-type area** of or landscape features such as planter beds and/or lawns **to increase soil infiltration**. This would create a beneficial use for this water and provide opportunity for groundwater recharge.

Mitigation 8. Riparian Habitat Protection

Mitigation for potential short- and long-term impacts to riparian oak woodland habitat is necessary to ensure protection of this habitat type. We recommend that temporary construction fencing be installed 6 ft. away from the outer edge of the riparian oak tree canopy. The fencing should be installed prior to any grading occurring on site and should be maintained throughout the duration of construction activities. The purpose of this fencing is to prevent construction vehicle and equipment encroachment and the storage of construction materials in this area. Recommended long-term mitigation measures include the removal of non-native trees and shrubs from the riparian oak woodland habitat and the establishment of a 25-ft.-wide outer (Zone 3) riparian buffer zone from the edge of the oak riparian woodland. The purpose of this outer buffer zone is to provide a transition zone between the riparian woodland and the proposed residence. The existing non-native trees and shrubs in this outer buffer zone should be removed and the area landscaped with compatible native vegetation. The landscape architect preparing the landscape plans for Parcel A should avoid using any plants listed by the California Invasive Plant Council as a Red Alert or List A invasive plant (CIPC 1999).

10.0 CUMULATIVE EFFECTS

This section assesses the incremental biological and water quality effects of the project in connection with those of past, current, and probable future projects.

Much of the Andree Clark Bird Refuge watershed is urbanized, particularly in its lower elevations. The portion of the watershed in the foothills where this project is located is also urbanized, but still has large, privately owned open spaces along the creeks and riparian corridors. These areas will likely remain undeveloped due to the combination of steep slopes and poor soils. These creeks and their associated riparian vegetation serve as important corridors for wildlife movement and bird breeding/nesting sites. The riparian areas are relatively undisturbed and have high biogeochemical buffer zone functions. Most of the future development in this watershed will consist of remodeling, replacement of existing structures, and lot splits where possible.

The city is actively involved in creek cleanup and public education to reduce creek and water quality pollution. This proposed project, with the implementation of the recommended mitigation measures, will preserve riparian habitat, reduce erosion, and improve water quality and will have a beneficial cumulative effect on biological resources.

11.0 AGENCY PERMITTING REQUIREMENTS IN WETLANDS AND RIPARIAN AREAS

Should the proposed storm drain extension pipe and outlet/energy dissipater structure extend into the bed of the creek, a US Army Corps of Engineers 404 permit would be needed. Should acquisition of a Corps permit be required, a Section 401 water quality certification from the Regional Water Quality Control Board (RWQCB) Central Coast Region would then also be necessary. In addition to these two permits, the portion of the new storm drain pipeline passing through the riparian oak woodland will require a California Department of Fish and Game (CDFG) 1603 Streambed Alteration Agreement before it may be installed. We recommend that the applicant file the necessary permit applications with the ACOE, RWQCB, and CDFG as soon as the environmental review process is completed by the city.

12.0 CONCLUSIONS

This biological assessment found 8 types of biological resource impacts from implementation of the proposed project:

1. Removal of Non-Native Trees and Vegetation
2. Vegetation Removal Associated with Fire Hazard Reduction
3. Wildlife Habitat Alteration/Loss
4. Increased Noise and Light Wildlife Disturbance
5. Direct and Indirect Impacts to Sensitive Species
6. Erosion and Sedimentation of Unnamed Creek
7. Impermeable Surfaces' Effect on Groundwater Recharge
8. Riparian Habitat Protection

The short- and long-term effects of these impacts were evaluated per the CEQA guidelines.

Two of the impacts:

- short-term impacts to water quality from erosion and sedimentation
- short- and long-term impacts to the riparian habitat; determined to be potentially adverse, significant, and mitigable.

Five of the impacts:

- Short- and long-term impacts caused by removal of non-native trees, three Coast Live Oak saplings and other vegetation
- Short- and long-term impacts caused by removal of non-native trees and other vegetation from the mandatory fire hazard reduction zone
- Short-term wildlife habitat alteration/loss impacts
- Short- and long-term impact of increased noise and light on wildlife
- Short- and long-term impacts to groundwater recharge were determined to be less than significant.

Two of the impacts:

- Long-term wildlife habitat alteration/loss impacts
- Short- and long-term direct and indirect impacts to sensitive species; determined to be none, no impact.

One impact is classified as beneficial

- Long-term impacts to water quality from erosion and sedimentation

The proposed project—with the implementation of the recommended mitigation measures listed below—will preserve riparian habitat, reduce erosion, and improve water quality and will have a beneficial cumulative effect on biological resources.

To ensure that potentially adverse, significant impacts are mitigated to acceptable levels, the following mitigation measures are recommended:

1. Appropriate erosion/sediment control devices between the construction zone and offsite areas shall be installed prior to initiation of construction activities and shall be maintained throughout the duration of construction as mitigation for short-term impacts to water quality from erosion and sedimentation.
2. Temporary construction fencing should be installed 6 ft. away from the outer edge of the riparian oak tree canopy. The fencing shall be installed prior to any grading occurring on site and will be maintained throughout the duration of construction activities as mitigation for short-term impacts to the riparian habitat.
3. Non-native trees and shrubs shall be removed from the riparian oak woodland habitat as mitigation for long-term impacts to the riparian habitat.
4. A 25-ft.-wide outer (Zone 3) riparian buffer zone shall be established from the edge of the oak riparian woodland as mitigation for long-term impacts to the riparian habitat. The existing non-native trees and shrubs in this outer buffer zone shall be removed and the area landscaped with compatible native vegetation. The landscape architect preparing the landscape plans for Parcel A should avoid using any plants listed by the California Invasive Plant Council as a Red Alert or List A invasive plant (CIPC 1999).

In addition to the mitigation measures described above, the following mitigation measures are recommended to further reduce impacts consistent with the City of

Santa Barbara Conservation Element policies, High Fire Hazard Guidelines, and Hillside Design District standards.

5. Obtain vegetation removal permit for trees and vegetation that will be removed as part of the project, including tree and vegetation removal performed for fire hazard reduction.
6. All landscaping around the Parcel A building envelope shall conform to the City of Santa Barbara Fire Prevention Bureau, High Fire Hazard Area Landscape Guidelines (Ordinance #5257).
7. All exterior lighting shall use low-watt fixtures and will be shielded to point downward.
8. Permeable/porous paving materials shall be utilized where possible to reduce the impermeability of hardscape surfaces. In addition, runoff from the two cisterns should be directed onto landscaped areas such as planter beds and/or lawns.

13.0 REFERENCES

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**Attachment 1
May 13, 2005
Photographs of Project Site**



Photo 1. Existing ornamental trees adjacent to proposed parcel A building envelope, view facing east from Eucalyptus Hill Road. (left).



Photo 2. Existing ground cover in proposed building envelope for Parcel A, view facing west, background ornamental trees. (above).



Photo 3 & 4. Overview of existing ornamental vegetation existing in and adjacent to proposed building envelope for Parcel A.



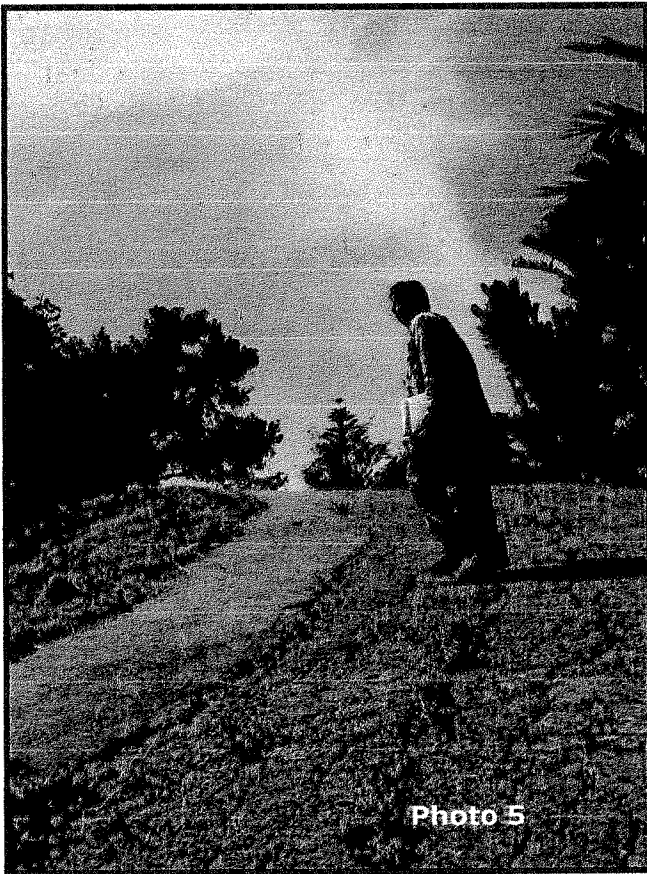


Photo 5. Existing driveway to be removed, view facing west.

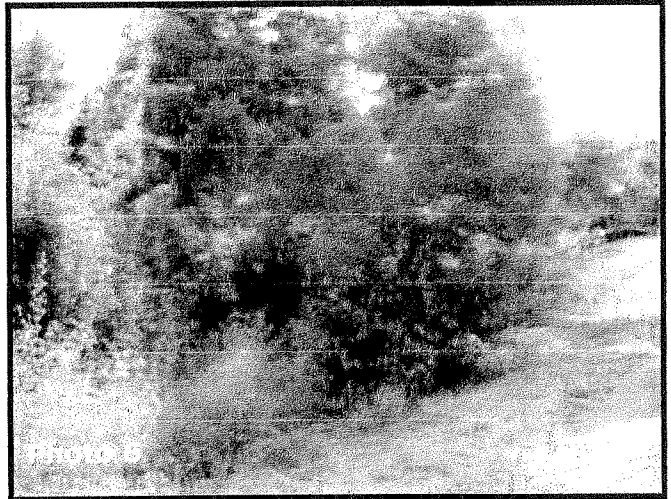


Photo 6. Ornamental trees adjacent to driveway to be removed in proposed building envelope.



Photo 7. Transition area from mixed ornamental to oak woodland riparian with nasturtium understory in both vegetation communities.



Photo 8. Deep erosion gully formed in riparian oak woodland area of Parcel A, along existing dirt road, depth measured with 12 inch ruler.



Photo 9. Dirt road conditions in western portion of Parcel A.



Photo 10. Dirt road near existing creek (left).



Photo 11

Photo 11. Riparian Oak Woodland ground cover and streambed (above).

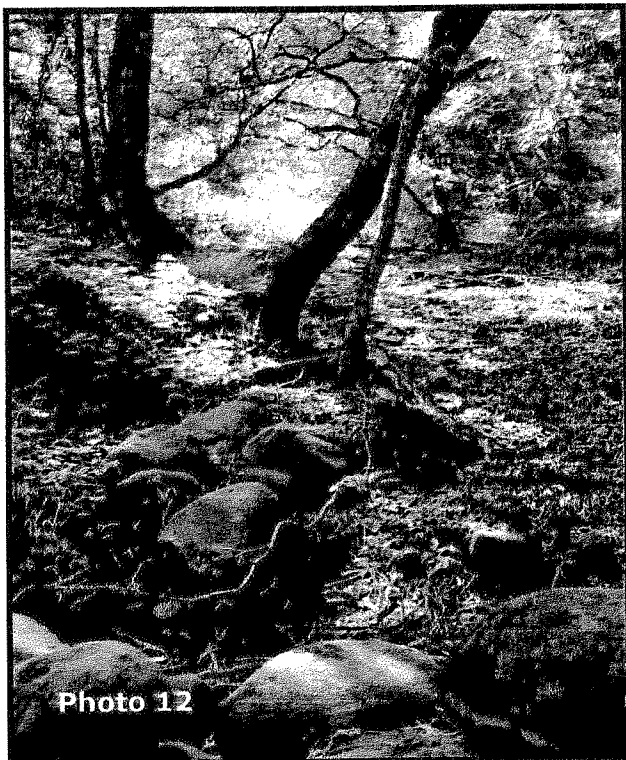


Photo 12

Photo 12. Riparian Oak Woodland (left).

Photo 13 and 14. Creek Conditions



Photo 13



Photo 14

**Watershed Environmental**

1103 E. Clark Ave, Suite F6, Orcutt, CA 93455

Phone (805) 934-5035 Fax (805) 456-3987

www.WatershedEnvironmental.com**City of Santa Barbara Planning Division**

Attn: Ms. Victoria Greene

P.O. Box 1990

Santa Barbara, CA 93102

December 20, 2005**Re: Response to 30-Day Development Application Review for Jeffrey
Property (APN:015-161-054) at 1776 Eucalyptus Hill Rd., Santa Barbara, CA**

Ms. Greene,

This letter is in response to the DART team's December 7, 2005 application review comments on Mr. Rick Jeffrey's proposed lot split and construction project at 1776 Eucalyptus Hill Road, Santa Barbara, CA (APN:015-161-054).

Your team had three comments on Watershed Environmental's revised November 4, 2005 biological assessment of the project. This letter addresses those comments and serves as an addendum to our revised BA.

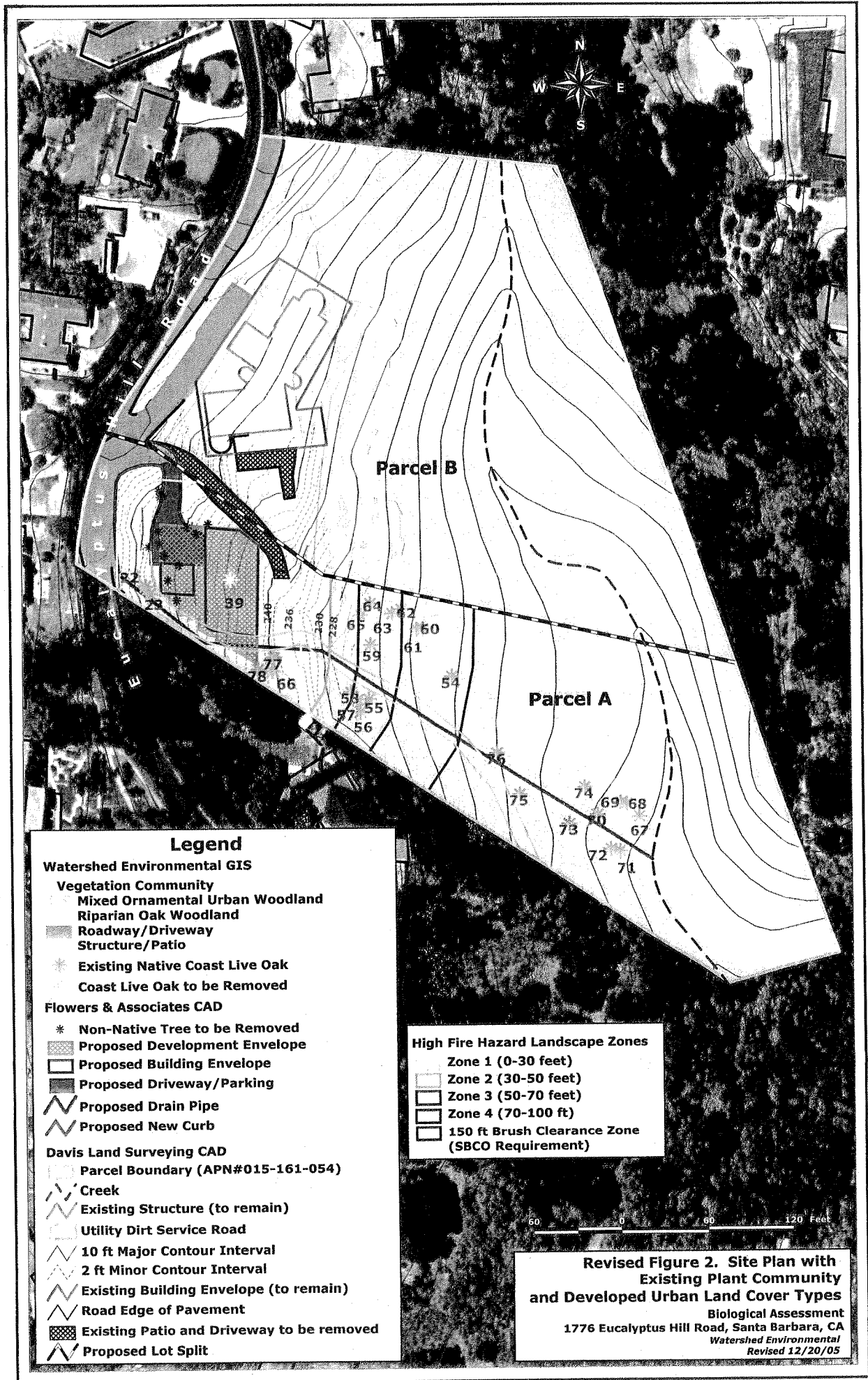
DART Comment 1

"The conceptual drainage plan for the project indicates that the new storm drain would be located above ground and anchored to the slope from about the 235 foot contour east to the creek. The biology report states that the storm drain would be underground."

Watershed Environmental response to DART Comment 1

Our description of the new storm drain in the December 7, 2005 biological assessment report was incorrect. The correct plan is depicted in the project conceptual grading and drain plan prepared by Flowers & Associates. The portion of the storm drain between the existing outlet to about the 235 ft. contour (approximately 160 linear ft.) will be installed below ground. The portion (approximately 260 linear ft.) of the storm drain below the 235 ft. contour to the storm drain outlet in the drainage will be installed above ground. Approximately 130 ft. of the total 260 ft. of above-ground storm drain pipe will be located within the existing graded dirt access road.

Watershed Environmental personnel Mark de la Garza and Melodee Hickman resurveyed the storm drain pipeline alignment on December 12, 2005. As part of this process, we surveyed using field measuring tapes the location of coast live oak trees adjacent to the storm drain alignment (revised Figure 2). We have sent the project landscape architect and civil engineer a copy of this letter and the revised figure so they can include tree locations on their plans.



DART Comment 2

"The report states that the alignment of the storm drain would follow an existing dirt road and that construction impacts would be limited to an existing dirt road. The dirt road identified on previous project plans does not appear to reach the creek. In order to assess impacts to biological resources, it is necessary to have a statement describing the vegetation located along the entire alignment of the proposed storm drain, including the outfall and discussion of the disturbance required to install the pipe and outfall."

Watershed Environmental response to DART Comment 2

The existing dirt access road is approximately 12 ft. wide. The only vegetation growing on the dirt road is common non-native weeds, including: sour grass (*Oxalis pes-caprae*), garden nasturtium (*Tropaeolum majus*), and rice grass (*Piptatherum miliaceum*). The vegetation on either side of the access road contains a mixture of non-native orange pittosporum (*Pittosporum undulatum*) and black acacia trees (*Acacia melanoxylon*), with a few scattered native coast live oak trees. The understory vegetation consists of poison oak (*Toxicodendron diversilobum*), garden nasturtium, and wild blackberry (*Rubus ursinus*). As part of our pipeline alignment resurvey on December 12, 2005, we surveyed the location of all coast live oak trees adjacent (within 10 ft.) to the access road (revised Figure 2), and measured the trunk DBH (diameter at breast height, i.e., at 4.5 ft.) and at 1 ft. above ground level (Table 1). Five coast live oak trees occur within 10 ft. of the existing access road. The vegetation along the portion of the pipeline alignment between the access road and the drainage channel is nearly identical to that occurring adjacent to the existing access road described above.

The following trees are present adjacent to the storm drain alignment between the access road and the drainage channel: orange pittosporum, black acacia, and coast live oak. Understory vegetation observed in this area includes: poison oak, wild blackberry, poison hemlock (*Conium maculatum*), English ivy (*Hedera helix*), Italian thistle (*Carduus pycnocephalus*), sour grass (*Oxalis pes-caprae*), Douglas' nightshade (*Solanum douglasii*), and an olive tree (*Olea europaea*) sapling.

Approximately 260 ft. of the storm drain pipe will be installed above ground. Pipeline material will be corrugated metal pipe. Pipe installation will not require the use of any heavy equipment or any excavation. The storm drain pipe is manufactured in 10- and 20-ft.-long sections and will be delivered to the project site by truck. The individual pipe sections are connected by a bolt-on coupling. The pipe will be anchored to the ground using metal posts and steel cables, both of which will be bolted to the pipeline at the pipe coupling. The anchor posts will be 1.5 in. in diameter by 6 ft. long and will be driven into the native ground using a sledgehammer or pneumatic hammer.

The below-ground portion of the storm drain pipeline will be PVC pipe. A backhoe will be used to excavate the pipe trench and lower the pipe into the trench. The pipe sections will be joined with rubber-gasketed push-on joints. After pipeline installation, a backhoe will backfill the storm drain pipe area and compact the backfilled soil around the pipeline.

Table 1. Native Trees Adjacent to Storm Drain Pipeline Alignment and within Fire Clearance Zones

ID No.	Common Name	Latin Name	Diameter at 1 ft. (in.)	DBH at 4.5 ft. (in.)
22	coast live oak	<i>Quercus agrifolia</i>	> 4	2.2, 2.1
23	coast live oak	<i>Quercus agrifolia</i>	7.4	6.4
39	coast live oak	<i>Quercus agrifolia</i>	3.0, 2.0, 2.0, 1.0	6.8
54	coast live oak	<i>Quercus agrifolia</i>	17.7	15.1
55	coast live oak	<i>Quercus agrifolia</i>	10.8	8.9
56	coast live oak	<i>Quercus agrifolia</i>	18.8	18.6
57	coast live oak	<i>Quercus agrifolia</i>	6.3	5.9
58	coast live oak	<i>Quercus agrifolia</i>	14.0	13.5
59	coast live oak	<i>Quercus agrifolia</i>	7.5	6.5
60	coast live oak	<i>Quercus agrifolia</i>	17.8	13.3
61	coast live oak	<i>Quercus agrifolia</i>	7.7	7.4
62	coast live oak	<i>Quercus agrifolia</i>	17.0	13.2, 12.0
63	coast live oak	<i>Quercus agrifolia</i>	19.5	16.2, 13.2, 8.6
64	coast live oak	<i>Quercus agrifolia</i>	9.6	8.0, 4.0
65	coast live oak	<i>Quercus agrifolia</i>	19.8	11.3, 12.8
66	coast live oak	<i>Quercus agrifolia</i>	9.0	8.0
67	coast live oak	<i>Quercus agrifolia</i>	13.0	12.0
68	coast live oak	<i>Quercus agrifolia</i>	9.4	8.4
69	coast live oak	<i>Quercus agrifolia</i>	20.6	17.4, 10.5, 9.3, 9.2
70	coast live oak	<i>Quercus agrifolia</i>	12.8	11.0, 10.7
71	coast live oak	<i>Quercus agrifolia</i>	16.4	12.5
72	coast live oak	<i>Quercus agrifolia</i>	10.5	10.2
73	coast live oak	<i>Quercus agrifolia</i>	14.4	11.5
74	coast live oak	<i>Quercus agrifolia</i>	17.8	16.2
75	coast live oak	<i>Quercus agrifolia</i>	11.8	10.3
76	coast live oak	<i>Quercus agrifolia</i>	22.0	20.1
77	coast live oak	<i>Quercus agrifolia</i>	9.6	8.0
78	coast live oak	<i>Quercus agrifolia</i>	7.4	6.0

Installation of the above-ground portion of the pipeline on the existing access road will not require any tree removal. We do not anticipate that any additional trees (native or non-native) will need to be pruned to install the above-ground storm drain pipe on the existing access road.

The lower portion (approximately 90 ft.) of the above-ground storm drain pipeline between the existing access road and the drainage channel pipeline outlet passes through a relatively undisturbed area. Since the pipeline will be installed above ground, it will be possible to avoid all native trees (i.e., coast live oaks). Prior to installation of the above-ground pipeline, the alignment will be staked so that SB City and other permitting agencies can walk the alignment and verify that impacts to oak trees will be avoided. The installation of this section of the above-ground pipeline will not require the removal of any native trees. The only trees that will be removed or pruned are non-native orange pittosporum and black acacia.

Ground cover vegetation disturbance will include pruning of poison oak and non-native vegetation along the pipeline alignment (approximately 10-12-ft.-wide) to create a safe workspace. The storm drain pipe will outlet onto a small, approximately 10-ft.-by-10-ft. rock rip-rap energy dissipater. The boulders will weigh approximately 200 lbs. each and be placed by hand on the banks and bottom of the drainage channel. The 200-lb. boulders are sized to withstand the estimated peak flow of the drainage channel (12 cu. ft./sec.) and will not be cemented or grouted. A backhoe will be used to transport the boulders down the existing access road to the work area. Hand labor crews will then move (roll) the boulders from the access road to the drainage channel, where they will be placed below the storm drain outlet. All boulder placement and any excavation necessary to place the boulders will be performed by hand. No equipment or vehicle access is proposed in this area. Disturbance will be limited to foot traffic and hand tools.

Prior to installation of the storm drain outlet and placement of the rip-rap boulder energy dissipater, the owner will obtain the necessary permits from the California Department of Fish and Game (1603 Streambed Alteration Agreement), US Army Corps of Engineers (404 permit), and California Regional Water Quality Control Board (401 Water Quality Certification) to conduct this work lawfully in a riparian area.

DART Comment 3

"The discussion of fire clearance requirements is not consistent with the requirements identified by Fire. The report should clarify the applicable requirements."

Watershed Environmental response to DART Comment 3

As we stated in the BA, the Jeffrey property is within the high fire-hazard Foothill Zone. The Fire Department has stated that when the lot split occurs, Parcel A will be required to comply with its hazard reduction standards for vacant lots, since it will not immediately contain any structures. According to Jim Austin at the SB City FD (December 13, 2005), the property will not be subject to the vacant lot requirements (see Attachment 1) unless Parcel A still contains no structures as of May 15, 2006, when the FD sends out notices containing the contents of Attachment A to owners of vacant lots within the City of SB.

In regard to fire clearance requirements for Parcel A (once it is built) and Parcel B, Ann Marx, the SB City FD Wildland Fire Specialist (December 12, 2005), indicates that brush must be cleared for a minimum of 100 ft. from any structures, plus 50 ft. in locations where slopes exceed 20 percent. In addition, the FD "Landscape Guidelines for High-Fire-Hazard Areas" (see Attachment 2) would apply for 100 ft. around any structure.

As the Fire Department review of our Biological Assessment indicates, the Jeffrey property is not within the Eucalyptus Hill Vegetation Management Unit, as we had stated in our report, but rather is within the 39-acre Alston Place VMU. In addition, the Fire Department states that because of the property's location within a VMU, the FD may, depending on funding, initiate a future community project to further reduce the fire hazard for the property. This might include public education and cooperative vegetation management. Ms. Marx says the designation of VMU is not required by FD code and is "outside of the brush clearing requirements" (see Attachment 3).

We also have revised Figure 2 in our BA (see above) to indicate the approximate location of all native trees, all of which are coast live oaks, within the four zones delineated in the FD's "High Fire-Hazard Landscape Guidelines." We have forwarded this information to the project's landscape architect, Ms. Carol Suzanna Gross. This information will be included in the landscape plan prepared by Ms. Gross.

Per SBFD instructions, we have also located and inventoried 6 native trees in Zone 1; 0 in Zone 2; 1 in Zone 3; and 8 in Zone 4. The revised Figure 2 also reflects a modification to the development envelope made by the property owner to avoid impacts to two coast live oak trees (Tree Nos. 22 and 23).

I trust our response to your December 7, 2005 comments sufficiently clarifies and remedies any unintentional deficiencies in our November 4, 2005 document.

Please call me at 805-934-5035 or 805-729-1070 if you have any further questions or concerns.

Sincerely,

Mark de la Garza
President, Watershed Environmental

Attachments:

- Attachment 1. 12/13/05 email correspondence from Jim Austin
- Attachment 2. Landscape Guidelines for High-Fire-Hazard Areas
- Attachment 3. 12/12/05 email correspondence from Ann Marx

cc:

- Mr. Rick Jeffrey (property owner)
- Ms. Carol Suzanna Gross (landscape architect)
- Mr. Mike Viettone (Flowers & Associates Civil Engineer)



CFS GEOTECHNICAL CONSULTANTS, INC.
ENGINEERING GEOLOGY

August 9, 2002
Project No. 020504

Rick Jeffrey
4530 Via Esparanza
Santa Barbara, California 93110

RECEIVED

SEP 10 2002

Subject: **FAULT CONDITIONS**
Planned Land Division
1776 Eucalyptus Hill Road
Santa Barbara, California

**CITY OF SANTA BARBARA
PLANNING DIVISION**

Dear Rick:

CFS Geotechnical Consultants, Inc., (CFS), is pleased to submit this letter discussing the location and activity of the faults mapped in the project area. This letter was prepared in response to your request. We understand that you are planning a land division of the subject parcel. The land division will create two parcel, with an existing single-family residence identified as 1776 Eucalyptus Hill Road located on the north, and an undeveloped parcel to the south. A new residence will be constructed on the southern parcel.

Hoover¹ maps a series of east-west trending faults within the eastern Riviera Hills and Sycamore Canyon areas of Santa Barbara. These faults include the Eucalyptus Hill, Sycamore, Montecito and Lagoon faults. The location of these faults relative to the site is depicted on Figure 1. Hoover considers these faults to be potentially active based on offset of late Pleistocene fanglomerate deposits. It should be noted that some investigators such as Dibblee², and Gurrola³ do not interpret all of these features as faults, but as deformed erosional unconformities. The Sycamore fault is the closest mapped fault to the project site. The Sycamore fault is mapped trending east-west just south of the intersection of Eucalyptus Hill Road and Alameda Padre Serra. The Sycamore fault is mapped by Hoover about 200 to 400 feet north of the planned building area (see Figure 2). Review of aerial photographs did not indicate distinct linear features, springs, tonal variations, or offset drainages on the property or trending toward the property that could be indicative faulting. What appears to be a remnant uplifted marine platform was observed south of the site in the 1929 and 1938 aerial photographs. The former shoreline angle of this platform is coincident with a portion of the mapped trace of the Lagoon fault south of the site.

¹ Hoover and Associates, (1978), Geologic Hazards Evaluation of the City of Santa Barbara, October 27.

² Dibblee, T.W. Jr., (1991), Personal communication regarding tectonic geomorphology in the Santa Barbara foothills.

³ Gurrola, L. D. and Keller, E. A. (1997), Tectonic geomorphology of the Santa Barbara fold belt, western Transverse Ranges, California: GSA abstracts with programs, vol. 29, no. 6, p. A-344.

Based on the data reviewed, it is our opinion that the trace of the Sycamore fault is at least 200 feet north of the building area. In addition, based on the short length of the fault and the date of last movement, it is our opinion that there is a relatively low potential for a future earthquake to occur on this fault. Accordingly it is our opinion that the site has a "low" potential to experience surface fault rupture in association with an earthquake on the Sycamore fault.

This limited assessment has been based upon what is believed to be currently applicable standard of the engineering geology profession at this time and locality. This warranty is in lieu of all other warranties, either expressed or implied. The contents of the assessment are valid as of the date of preparation. However, changes in the condition of the site can occur over time as a result of either natural processes or human activity. Our assessment has been prepared for the exclusive use of Rick Jeffrey and his authorized agents. Please call me if you have any questions or require additional information.

Sincerely,

CFS Geotechnical Consultants, Inc.
a California Corporation



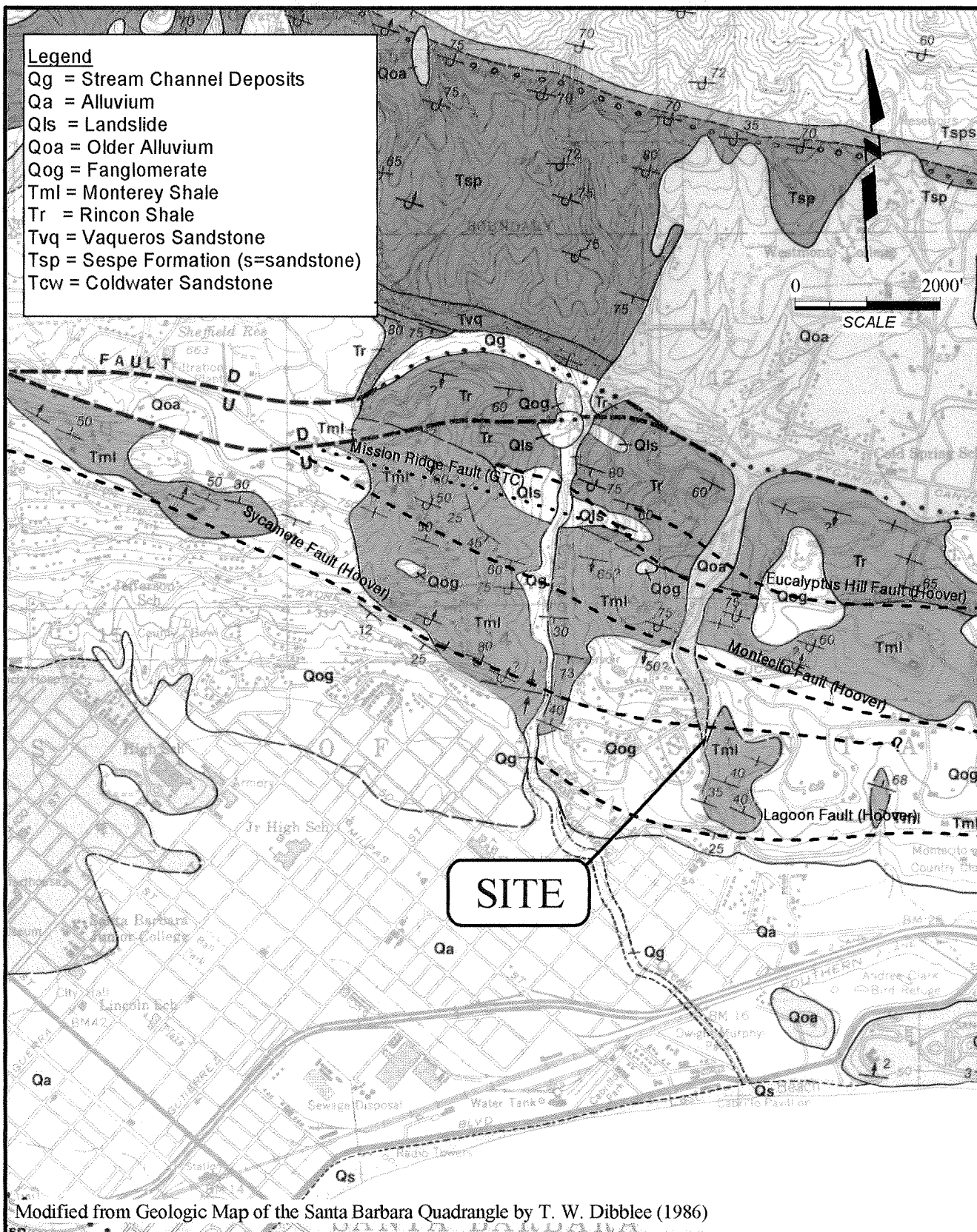
Roger C. Slayman, C.E.G 1920
Principal Engineering Geologist

Copies: 2 – Addressee

Attachments: Regional Geologic Map
Fault Location Map

Legend

Qg = Stream Channel Deposits
 Qa = Alluvium
 Qls = Landslide
 Qoa = Older Alluvium
 Qog = Fanglomerate
 Tml = Monterey Shale
 Tr = Rincon Shale
 Tvq = Vaqueros Sandstone
 Tsp = Sespe Formation (s=sandstone)
 Tcw = Coldwater Sandstone



Modified from Geologic Map of the Santa Barbara Quadrangle by T. W. Dibblee (1986)

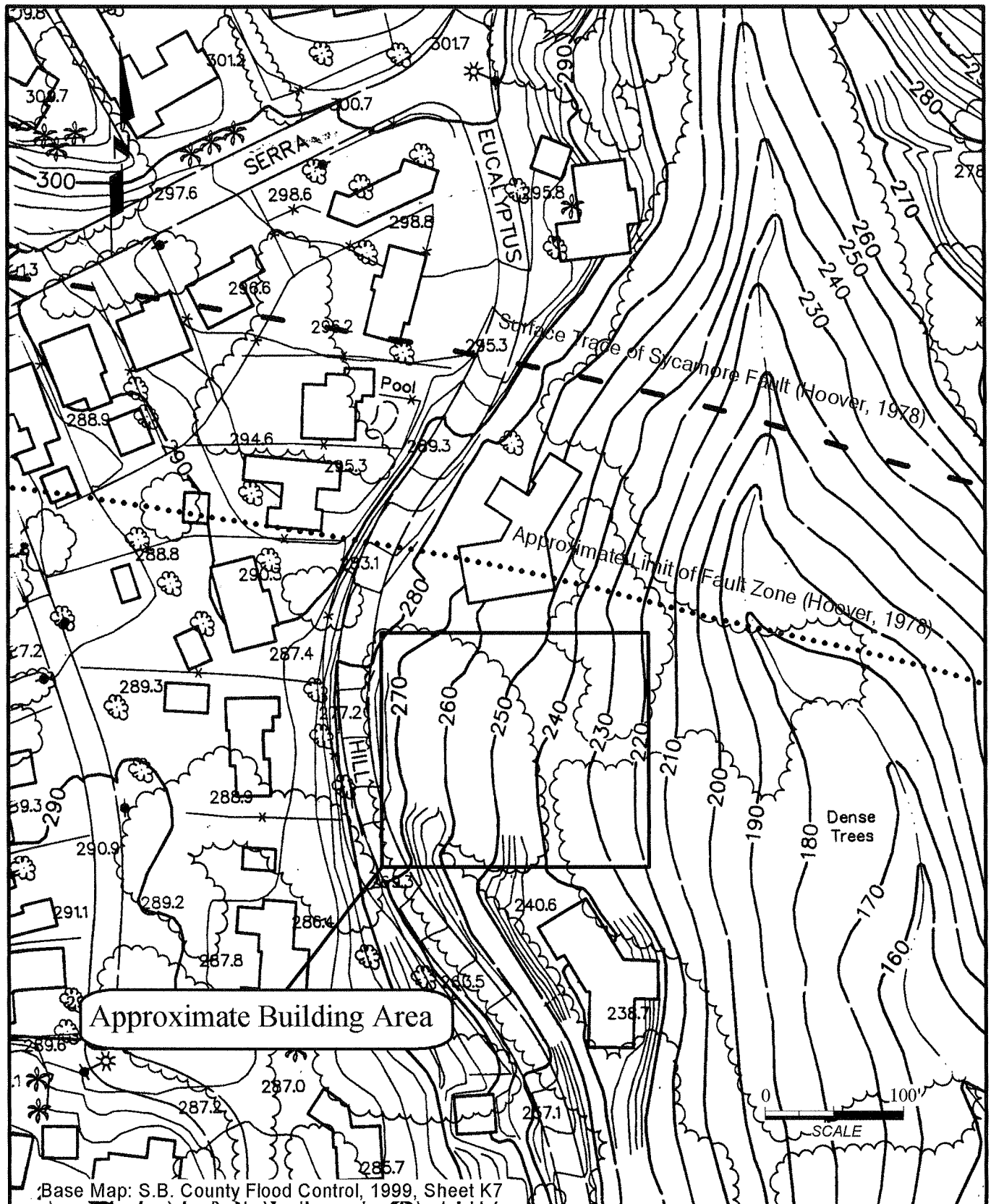


CFS Geotechnical Consultants

REGIONAL GEOLOGIC MAP

1776 Eucalyptus Hill Road
 Santa Barbara, California
 Project No. 020504

Figure 1



CFS Geotechnical Consultants

FAULT LOCATION MAP

1776 Eucalyptus Hill Road
Santa Barbara, California
Project No. 020504

Figure 2

Pacific

Materials

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PRELIMINARY FOUNDATION INVESTIGATION

Proposed Single-Family Residence

1776 Eucalyptus Hill Drive

City of Santa Barbara

California

RECEIVED
MAR 25 2005
CITY OF SANTA BARBARA
PLANNING DIVISION

CLIENT

Eucalyptus Modern, LLC
Attn: Rick Jeffrey
4530 Via Esperanza
Santa Barbara, CA 93110

November 12, 2004
Lab No: 61287-2
File No: 04-11909-2

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- APPENDIX B - Laboratory Tests

INTRODUCTION

This report presents the results of a preliminary foundation investigation performed at 1776 Eucalyptus Hill Drive, in the City of Santa Barbara, California. This site is undeveloped and located on a steep east-facing slope. The surface vegetation consists of seasonal weeds, grasses, and eucalyptus trees.

SCOPE OF WORK

It is the purpose of this investigation to classify the soil disclosed by the exploratory borings and excavations by observation and tests on selected samples. In addition, this study includes laboratory tests to evaluate soil strength, the effect of moisture variation on the soil-bearing capacity, compressibility, liquefaction, and expansiveness. Based upon this information, we will provide preliminary grading and foundation recommendations for the proposed single-family residence.

The scope of this investigation does not include the analyses of the corrosive potential of the soil, previous site construction, or analyses of geologic structures and their associated features, such as faults, fractures, bedding planes, strike and dip angles, ancient landslides, potential for earth movement in undisturbed or natural soil formations sloped or level, or other sources of potential instability which relate to the geologic conditions, as these items should be addressed by a qualified Engineering Geologist.

This study is a soil engineering report. It is not a geology report as referenced in Section 3309.4 and 3309.6 of Chapter 33 of the Uniform Building Code (UBC). It is the intent of this report to comply with Section 3309.5 of Chapter 33 and Section 1804 of Chapter 18 of the UBC. This exploration was conducted in accordance with presently accepted geotechnical engineering procedures currently applied in the local community in order to provide the appropriate geotechnical design characteristics of the foundations soils and of the proposed fill soils in order to properly evaluate the proposed structure with respect to differential settlement based upon the anticipated soil characteristics at the time of construction.

LIMITATIONS

This Laboratory's basic assumption is that the soil borings presented herein are representative of the entire footprint of the proposed development, however, no warranty is implied. If, during the course of construction, soil conditions are encountered which vary from those presented herein, please contact this Laboratory immediately so appropriate field modifications may be expeditiously proposed.

It is your responsibility to contact our office, providing at least 48 hours of notice for grading or footing excavation observations and testing. The observation of excavations during the construction phase represents an opportunity by our firm to either confirm soil conditions estimated by the exploratory borings or to discover soil conditions which have not been

addressed. When such undisclosed conditions are encountered, opinions and recommendations addressing these conditions will be rendered at that time.

This report is considered preliminary and no person should consider the recommendations or soil conditions described herein as conclusive. The recommendations and conclusions of this report are considered preliminary until all excavations have been observed during the construction phase, after which a final report will be issued stating that the grading and foundation works accomplished and installed are appropriate for the soil conditions encountered.

FIELD INVESTIGATION

The subsurface soil conditions were explored by two truck mounted auger borings which were drilled to depths of up to 20 feet. The locations of the borings were selected as appropriate and representative. Representative relatively "undisturbed" tube soil samples were obtained during the drilling operation by the thin-walled sampling tube method (ASTM D-1587). Laboratory tests and analyses of representative soil samples, obtained during the drilling operation, were performed to estimate the engineering properties and determine the soil classification of earth materials encountered in accordance with UBC Standard Chapter 18. The locations of the borings are shown on Plate 1. The boring log data is presented in Appendix A, "Field Investigation", while the results of the laboratory tests are provided in Appendix B, "Laboratory Tests".

SOIL CONDITIONS

1. No groundwater was encountered in the exploratory boring which extended to a depth of 20 feet. It should be recognized that water table elevations, even seasonal perched water tables, might fluctuate with time, being dependent upon seasonal precipitation, irrigation, land use, and climatic conditions, as well as other factors. Therefore, water level observations at the time of the field investigation may vary from those encountered during the construction phase of the project. The evaluation of such factors is beyond the scope of this report.
2. The soil profile consists of a dark brown expansive clay covering the top 3 to 7 feet of the surface soil. Below the expansive clay is a tan stiff clay and white shale.
3. The soil type per the Uniform Building Code Table 16-J is estimated to be S_D . The site is located in Seismic Zone 4 and is estimated to be within two kilometers of a Type B fault.
4. The potential for liquefaction is considered to be very low.

PRELIMINARY CONCLUSIONS AND RECOMMENDATIONS

It is the opinion of this Laboratory the proposed grading and construction are feasible from a soil-engineering perspective provided the recommendations contained in this soil engineering report are incorporated into the design and implemented during construction.

It is the understanding of this Laboratory the proposed single-family residence will be a multi-level wood frame structure with floors designed to span between the footings.

The expansive soil encountered at the site is identified as the most challenging aspect of the foundation design. The clay layer is approximately 3 to 7 feet in thickness becoming shale below this depth. The shale was found to have the consistency of a very stiff to brittle hard siltstone. We recommend a drilled pile and grade beam foundation system to support the residence any other appurtenant improvement which will not tolerate periodic differential movement. The clay surface soil is prone to instabilities, such as surficial slope failures, mudflows, creep, expansion, and shrinkage. Perfect performance of appurtenant improvements is an unacceptable level of expectation on the part of the property owner or future owners. Associated features, such as patios, walkways, trellis columns, and driveways will be subject to movement due to the expansion and shrinkage of the clay surface soils. The appurtenant improvements may also be supported by drilled piles; however, depending on factors, such as economics and tolerance, supporting the appurtenant improvements on piles is typically determined to be economically infeasible. If the decision is made to design the appurtenant improvements without the piles and grade beams, the design then seeks to provide support economically and within a zone of risk that must be accepted by the owner.

An economical way of reducing the anticipated movement of the appurtenant improvements, such as walkways and patios, is by moisture control of the supporting soils and by carefully choosing the type of building materials used to construct these associated features. Moisture control can be approached by installing surface storm drain collection systems, controlling surface water, and the proper placement of planting areas around the foundation system. Water entering the subsurface soils can be reduced by the placement of a false bottom below planters or an impervious membrane, such as visqueen beneath decorative rock, patios, or paths. Controlling surface water and directing it away from slopes is critical. However, even with correct drainage the moisture content of the soil will change from summer to winter and, therefore, the soils will shrink and swell, moving any item supported over the soil. Drainage can serve to reduce the rate of movement.

With respect to construction materials for the appurtenant improvements, redwood decks are more flexible than concrete patios and do not reflect as much damage from soil movement. If concrete flatwork is required, there are at least two alternative approaches. One is to maintain exterior flatwork disconnected from the exterior foundation of the house, since the exterior flatwork may experience more movement than the foundation. By leaving the two disconnected, the exterior flatwork is allowed to float. The problem, however, is that the flatwork may tend to float away from the house, creating an uneven gap distance between the foundation and the edge of the concrete slab or creating a trip edge at porch entries.

The other alternative is to dowel the flatwork into the exterior foundation with steel rebar to prevent the differential movement and to prevent the gap and trip edge from occurring. This method, however, holds one end of the flatwork fixed while the other is free to move, thus cracking the concrete. For either method, the owner can expect movement and, therefore, cracks. Individual stone pavers with grass between the joints provide an alternative style of "flatwork" with less cracks and the differential movement is not as noticeable. Where the improvements discussed above are located adjacent to slopes, a lateral and downward creeping occurs which undermines the feature constructed over and supported by the expansive soil. Prevention of the downward movement is only accomplished with a drilled pile and grade beam foundation system.

GRADING

The only grading anticipated below the footprint of the structure will be excavations for footings and retaining walls. Some terracing of the hillside using a cut excavation may also be incorporated to remove the earth from the proposed finished floor elevations. Compacted fill is anticipated in the driveway and surrounding yards and must be laterally confined by a retaining wall structure. Based on this understanding, we provide the following grading recommendations:

1. All grading shall conform to the Santa Barbara City Grading Code.
2. The area to be graded shall be cleared of surface vegetation, including roots, and root structures.
3. If, during the removal and scarification process, excessive root structures are encountered, these areas shall be deep ripped in two directions to the depth of the root structure after which the disturbed soils and the roots shall be completely removed and the resulting cavities shall be scarified and processed to receive fill in accordance with recommendations contained in this section.
4. If, during the grading operations, previously placed, undocumented fill material is encountered, this fill material shall be removed under the direction of this Laboratory prior to commencement of the filling operations.
5. The area to be graded shall be prepared. In the area to be prepared, the loose topsoil and compressible surface soils shall be removed and observed by a representative of our firm. Upon approval of excavation, the exposed ground surface shall be scarified an additional 6 to 8 inches, moistened or dried to near the optimum moisture content, and compacted to 90% of the relative compaction. We anticipate the depth of the surface soil removal to be from 24 to 36 inches below the existing grade.
6. The removed surface soils and/or imported approved fill may then be placed in loose lifts of approximately 6 inches, thoroughly mixed, moistened or dried to near optimum moisture content, and compacted to a minimum of 90% relative compaction.

7. Rocks greater than 6 inches in size shall be removed from the soil being spread for compaction.
8. Import soils, if required for structural fill, shall be granular, non-expansive soils which are equal to or superior in quality to the on-site soils as determined by this Laboratory prior to importation of the fill material to the site.
9. The compaction standard shall be the latest adoption of the ASTM D-1557 method of compaction.
10. Positive surface drainage shall direct water away from all slopes and away from the foundation system of the proposed structure.

FOUNDATIONS

1. All footings shall be designed as grade beams able to span between drilled and cast-in-place concrete piles. All floors shall be designed to span between the grade beams. The grade beams shall extend a minimum distance of 12 inches below the lowest exterior grade or 12 inches below the interior crawl space grade, whichever is deeper.
2. A collapsible cardboard box¹ (CCB) forming material shall be placed below the grade beams and below concrete structural slabs to prevent the uplift swell pressures of the expansive soil from acting on the bottom of the structure.
3. All piles shall be drilled a minimum distance of 10 feet into the stiff shale layer, which was encountered at depths of approximately 3 to 7 feet below the present grade. A skin friction value of 1,000 psf may be assumed for that portion of the pile extending into the shale layer. An end bearing value of 3,000 psf at the pile tip may also be assumed. The minimum length of a pile shall be 10 feet below the bottom of the grade beam. The minimum diameter shall be 18 inches.
4. This Laboratory shall be requested to inspect the pile excavations prior to placement of steel and concrete.
5. The foundation shall be designed by a Civil or Structural Engineer.
6. Unobstructed under floor cross ventilation is recommended for all crawl space areas. The air passage should be located below the bottom of the floor joist and above the exterior grade. Air entry should be direct without having to flow through 90-degree turns in a wall duct.
7. This Laboratory shall be requested to inspect the footing excavation prior to placement of reinforcing steel and timber form boards.

¹ Available from Shepler's, 9103 East Alameda, Texas 77054
Telephone: (713) 799-1150, FAX: (713) 799-8431 (Allow at least two weeks for shipping)

8. Floor or crawl space elevations located lower than the surrounding exterior grades are recommended to be protected from moisture intrusion. Please consult the building designer for details, such as waterproofing and French drains.

RETAINING WALLS

Cantilevered - For cantilevered retaining walls, such as site walls and garden walls, which do not form part of the structure, we recommend the following:

1. The cantilevered retaining wall shall be designed assuming an active soil pressure equivalent to a fluid (E.F.P.) whose weight is 35 pcf for level backfill conditions and 52 pcf for backfill slopes, which are constructed at an angle of up to 27 degrees. These values are based on Coulomb's Equation and the following assumed backfill soil values: internal angle of friction equal to 34 degrees, cohesion equal to zero, and a total unit weight of soil equal to 125 pcf. The E.F.P. value does not include surcharge loads and is based on a free-draining condition. The free-draining condition must be created by placing the backfill specified in this section of the report.
2. The bottom of the retaining wall footing shall extend a minimum distance of 36 inches below the undisturbed natural grade or 12 inches into firm undisturbed original ground (whichever is deeper) and shall be designed assuming an allowable soil bearing value of 2,000 psf. For footings placed on slopes, the base of the toe or keyway placed at the toe shall extend to such a depth that there exists 10 horizontal feet between the bottom of the footing and the daylight line of the adjacent slope. It should be noted the key may be placed adjacent to the downhill edge of the retaining wall footing in order to attain the recommended downhill grade footing embedment.
3. A passive soil pressure equivalent to a fluid whose weight is 350 pcf and a coefficient of friction against sliding of 0.35 may be assumed for the footing excavation described in the recommendation above.
4. The use of equipment to compact soil within the wedge of backfill defined by a 1:1 line projected up from behind the retaining wall to the surface shall be limited to handheld rammer plate compactors, such as a Wacker BS 45Y. A string line shall be placed along the top of the wall to monitor possible rotation of the wall due to the compaction surcharge. If the wall begins to bow or lean away from the backfilling operations, the compaction process shall stop and the Soils Engineer shall be notified immediately such that modified compaction recommendations can be given at that time.
5. The finish covering on the face of the wall, such as stucco or paint, may be adversely affected by moisture intrusion from the backfill through the back of the wall. To prevent this, you should consider waterproofing the back of the wall and footing. All waterproofing and application of waterproofing shall be in accordance with the specifications of the product supplier.

6. Retaining wall backfill shall be a clean coarse sand or gravel wrapped in a filter fabric. The gravel shall be separated from adjacent native soil by a filter fabric, such as Mirafi 140N™. The retaining wall shall be serviced by appropriately placed weep holes or a perforated drain. This drainage feature must include at least 2 cubic feet of gravel wrapped in filter fabric. Lower quality native backfill material may be utilized outside the triangular wedge which extends upwards from the inside edge of the retaining wall and is a minimum width of 60% of the wall height at ground surface. The sand between the wall and native soil shall have a Sand Equivalent of 20 or greater and an Expansion Index equal to zero. To avoid excessive amounts of sand and gravel backfill, do not allow the excavation contractor to cut a vertical excavation 2 to 4 feet beyond the back of the retaining wall footing or stem. Cut only to the point needed to install the drainpipe and slope the excavation back as specified.
7. It is assumed that the rough grade excavation behind the retaining wall is to be cut at a temporary slope angle of 1 horizontal to 1 vertical in order to comply with Cal-OSHA safety requirements.
8. Retaining wall backfill material shall be compacted to a minimum of 90% relative compaction. It should be noted retaining walls designed assuming active soil conditions are anticipated to deflect with time in a downhill direction. In addition, surface features which obtain their support from compacted retaining wall backfill materials are anticipated to express differential movement with respect to the retaining wall as the wall rests upon the undisturbed original ground and the surface features would rest upon a considerable thickness of compacted fill which has settlement characteristics differing from that of the shale (or original ground). The differential movement between the wall and slab patio may be undesirable. An alternate design may require placing a planter between the wall and slab or connecting the slab to the wall, creating a retaining wall which is pinned at the top, not cantilevered.

Partially Restrained - For restrained or partially restrained retaining walls or cantilevered retaining walls which form a portion of the foundation system of the structure, we recommend the wall be designed as a braced wall utilizing at-rest pressures in accordance with the following recommendations:

1. The retaining wall shall be designed assuming an at-rest soil pressure equivalent to a fluid (E.F.P.) whose weight is 55 pcf for level backfill conditions and 73 pcf for backfill slopes, which are constructed at an angle of up to 27 degrees. These values are based on the same assumed conditions stated in Recommendation No. 1 under the Cantilevered section. The at-rest condition for a level backfill is based on the following equation: $E.F.P. = K_0 \gamma$ where $K_0 = 1 - \sin \phi$, γ is the total unit weight of soil, and ϕ is the internal angle of friction.
2. The retaining wall footing shall conform to the Foundations Recommendations.

3. A passive soil pressure equivalent to a fluid whose weight is 350 pcf and a coefficient of friction against sliding of 0.35 may be assumed for the footing excavation described in the recommendation above.
4. The retaining wall shall be serviced by a perforated drain which is located a minimum of 12 inches below top of the adjacent interior concrete slab-on-grade floor.
5. Walls, foundations, and connections between walls and foundations forming interior finished rooms of the structure shall be waterproofed by the proper application of a moisture barrier, such as Mirafi™ M-800, followed by Miradry™. A drainage composite, such as Miradrain™, shall be placed over the Miradry™. All waterproofing products should be applied in strict conformance with the manufacturer's recommendations. The selection of a waterproofing product and the observation of proper installation will not involve Pacific Materials Laboratory. We recognize the need for waterproofing; however, it is not in our realm to know the optimum product for application to the retaining wall or to confirm proper installation.
6. It is assumed that the rough grade excavation behind the retaining wall is to be cut at a temporary slope angle of 1 horizontal to 1 vertical in order to comply with Cal-OSHA safety requirements.
7. Footings located near the retaining wall stem shall extend through any retaining wall backfill and shall be supported on the firm underlying ground surface and behind a 1:1 line projected upward from the base of the wall. As an alternative, this footing can be designed to span across the backfill area and tie into the retaining wall for support.
8. Retaining wall backfill shall include 2 cubic feet per linear foot of wall of 3/8- to 1-inch gravel placed around a 4-inch perforated rigid PVC drainpipe. The perforations of the pipe shall be placed down at the positions of 5 and 7 o'clock. A filter fabric shall separate the gravel from the other backfill soils.
9. Retaining wall backfill above the drainpipe shall be a clean coarse sand or gravel, creating an inverted triangular wedge. Lower quality native backfill material may be utilized outside the triangular wedge which extends upwards from the outside edge of the pipe/gravel at the base of the retaining wall and is a minimum width of 60% of the wall height at ground surface. Coarse clean sand is acceptable when the Sand Equivalent is greater than 20 and the Expansion Index equals zero. To avoid excessive amounts of sand and gravel backfill, do not allow the excavation contractor to cut a vertical excavation 2 to 4 feet beyond the back of the retaining wall footing or stem. Cut only to the point needed to install the drainpipe and slope the excavation back as specified.
10. The use of equipment to compact soil within the wedge of backfill defined by a 1:1 line projected up from behind the retaining wall to the surface shall be limited to handheld rammer plate compactors, such as a Wacker BS 45Y. A string line

shall be placed along the top of the wall to monitor possible rotation of the wall due to the compaction surcharge. If the wall begins to bow or lean away from the backfilling operations, the compaction process shall stop and the Soils Engineer shall be notified immediately such that modified compaction recommendations can be given at that time.

11. The engineer designing the retaining wall shall address the following conditions:
 - A. When a retaining wall is backfilled without a top restraint, such as a wood floor diaphragm, the stem of the retaining wall acts as a cantilever.
 - B. Depending on the rigidity of the top restraint, the wall may act as a beam spanning between the top and bottom points reversing the tension side of the stem to the front of the wall as opposed to the back as in the case of a cantilever condition.
 - C. Structure members deflect when loaded. The users guide to the widely used computer program RetainPro recommends the deflection of the wall be checked because the program does not calculate deflection. Refer to Section 9 titled "Related Design Considerations" in the manual titled "Basics of Retaining Wall Design", Page 50. As an estimate, the Concrete Reinforcing Steel Institute (CRSI) manual estimates concrete reinforced stems of cantilevered retaining walls will deflect a horizontal distance at the top of the wall equal to the height of the wall divided by 240. We recommend the appropriate deflection equation and values corresponding to load, condition, and material be employed to determine the deflection corresponding to the lateral loads recommended herein such that appropriate connections, tiebacks, bracing, or construction joints can be placed within the structural design to properly account for the deflection. The total deflection may not occur during the backfilling operation, but rather sometime after the frame structure is built over and adjacent to the retaining wall.

ADJACENT LOADS

Where footings are placed at varying elevations, the effect of adjacent loads may be calculated using the widely published Formulas for Stresses in Semi-infinite Elastic Foundations or the Boussinesq figures and equations for both vertical and horizontal surcharge loads.

SETTLEMENT

It is the intent of the recommendations contained in this report to achieve angular distortions² of approximately 1/480. A total settlement of approximately 1 inch or less is anticipated in the undisturbed, native soil and approximately 1% to 1.5% of the fill height is the

² Angular distortion is the ratio of the vertical differential settlement divided by the horizontal distance over which the vertical differential is measured.

anticipated total settlement at areas where compacted fill soil is placed in accordance with the grading recommendations provided in this soil engineering report. Movement from expansive soil has already been discussed in this report under the heading Preliminary Conclusions and Recommendations. The soil bearing values and estimated settlements contained in this report are preliminary and may need to be modified after the foundation and grading plans are substantially complete.

PLAN REVIEW

We request the grading and foundation plans be submitted to our office for a general review to verify substantial compliance to the recommendations contained in this report.

CLOSURE

The recommendations contained herein are for the sole use of our client and are based upon this Laboratory's understanding of the project which has been described herein. If the project scope, location, or conceptual design is subsequently altered, this Laboratory shall be requested to modify, as necessary, the recommendations contained herein as is appropriate for the new development concept. If the recommendations of this report are not implemented within one year, we recommend an update and review of the contents of this report be performed by this Laboratory.

The recommendations contained herein are based upon the assumption that Pacific Materials Laboratory shall be requested to perform the testing and observation services which will be required during the grading and foundation operations in order to verify that the actual soil conditions encountered and the construction procedures are consistent with the recommendations contained herein. If this service is performed by others, only the technical correctness of the actual analytical soil tests described here is attested to by this Laboratory.

Thank you for the opportunity of providing this service. If you have any questions regarding this matter, please do not hesitate to call.

Respectfully submitted,

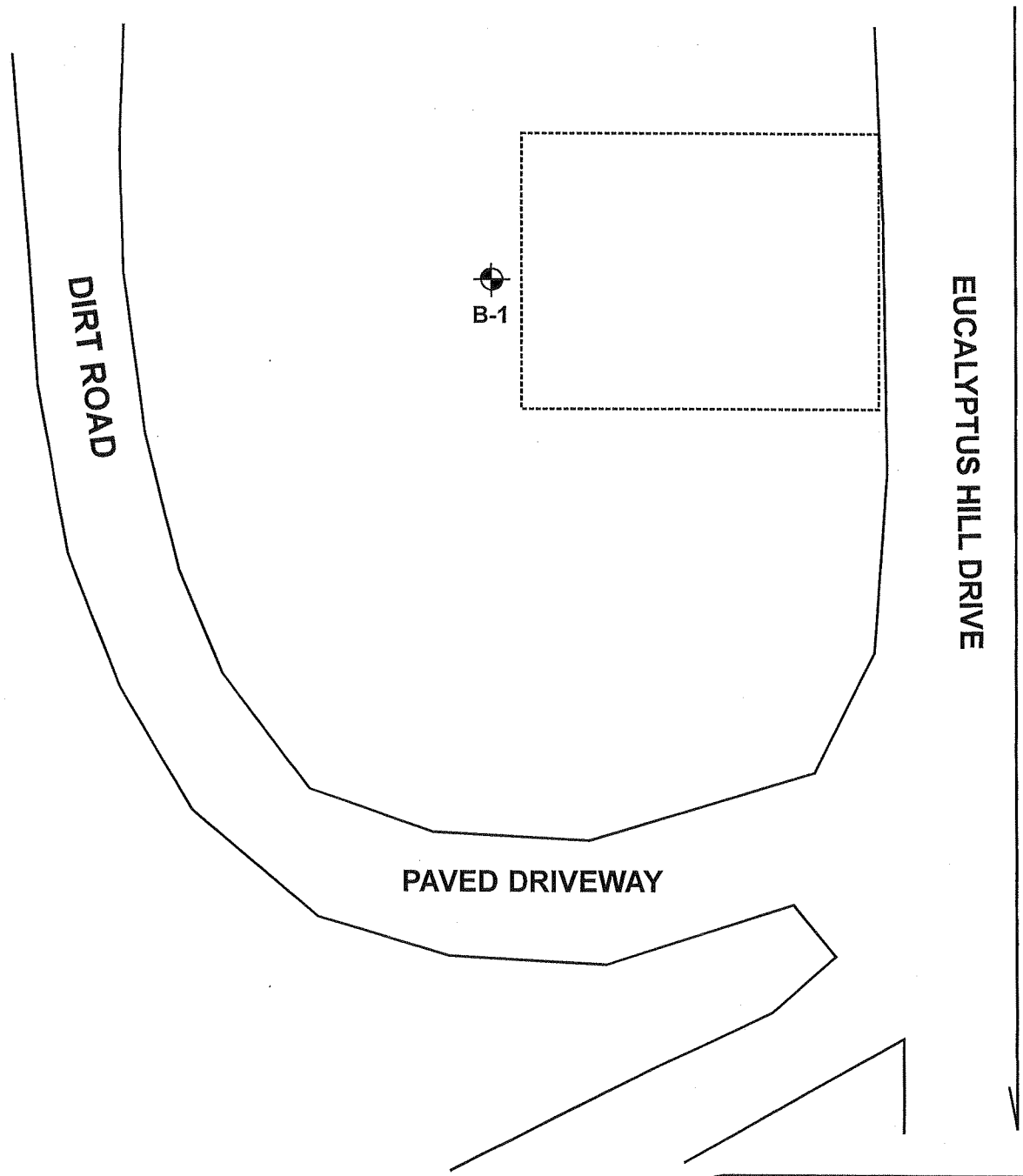
PACIFIC MATERIALS LABORATORY, INC.



Ronald J. Pike
Geotechnical Engineer, G. E. 2291

RJP:ld

cc: Addressee (3)



SITE PLAN

1776 Eucalyptus Hill Drive
City of Santa Barbara,
California

LEGEND
⊕ B-1 - BORING LOCATION
⊕ D-1 - FIELD DENSITY TEST LOCATION

Scale: 1" = 80'	Plate 1 Lab No: 61287-2 File No: 04-11909-2 November 12, 2004
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APPENDIX A
FIELD INVESTIGATION

November 12, 2004

Lab No: 61287-2

File No: 04-11909-2

November 12, 2004

-Enclosure A-1

Lab No: 61287-2




File No: 04-11909-2

TRENCH LOG DATA


EXPLORATORY TRENCH

Field Technician: Kump/Puante

Date Excavated: 9-22-04

Dry Density (pcf)	Moisture Content (%)	Depth (ft.)	Soil Log	Soil Description
108.6	18.9	0.0		Dark brown Sandy CLAY with shale fragment
		1.0		
		2.0		
		3.0		
		4.0		
		5.0		
66.9	33.8	6.0		Tan-white SHALE
		7.0		
		8.0		
		9.0		
		10.0		
		11.0		
		12.0		
		13.0		
		14.0		
		15.0		
		15.5		

LEGEND

 - Thin-Walled Tube Sample
ASTM D-1587

Pacific Materials Laboratory

BORING LOG DATA

BORING NO. 1

Drill Rig Operator: Kump/Puente

Date Drilled: 9-22-04

Dry Density (pcf)	Moisture Content (%)	Depth (ft.)	Soil Log	Soil Description
		0.0		Brown Sandy CLAY
		1.0		
91.9	12.2	2.0		Tan brown Silty SAND
		3.0		Red-brown-yellow Sandy CLAY
83.7	13.4	4.0		Ligth brown Clayey SAND
		5.0		
		6.0		
		7.0		Tan brown CLAY
80.0	29.7	8.0		Tan-brown Silty SAND with Clay, dry
		9.0		
		10.0		
		11.0		
80.5	37.3	12.0		Yellow gray Silty Sandy CLAY, moist
		13.0		
		14.0		
76.6	33.3	15.0		Gray brown yellow Sandy CLAY, moist
		16.0		
		17.0		
		18.0		
		19.0		
83.3	32.0	20.0		Gray CLAY, moist
		20.5		

LEGEND

■ - Thin-Walled Tube Sample
ASTM D-1587

APPENDIX B
LABORATORY TESTS

November 12, 2004

Lab No: 61287-2

File No: 04-11909-2

MECHANICAL ANALYSES (Values in Percent Passing ASTM D-422)

SIEVE SIZE	B-1 @ 3'	B-2 @ 8'
1/2 Inch	98.4	100.0
3/8 Inch	93.8	98.7
No. 4	89.6	93.3
No. 8	85.7	90.1
No. 16	81.3	88.2
No. 30	74.5	86.7
No. 50	68.1	84.9
No. 100	67.8	81.9
No. 200	65.9	80.3

SAND-SILT-CLAY (By Hydrometer ASTM D 422)

<u>BORING NO.</u>	<u>DEPTH (ft.)</u>	<u>SAND %</u>	<u>SILT %</u>	<u>CLAY %</u>	<u>SOIL DESCRIPTION</u>
1	3	30	28	42	Sandy silty CLAY
2	8	28	32	40	Sandy silty CLAY

ATTERBERG LIMITS (ASTM D-4318)

<u>BORING NO.</u>	<u>DEPTH (ft.)</u>	<u>SOIL TYPE</u>	<u>LIQUID LIMIT</u>	<u>PLASTIC LIMIT</u>	<u>PLASTICITY INDEX</u>
1	3	CL	47	26	21
2	8	MH	55	37	18

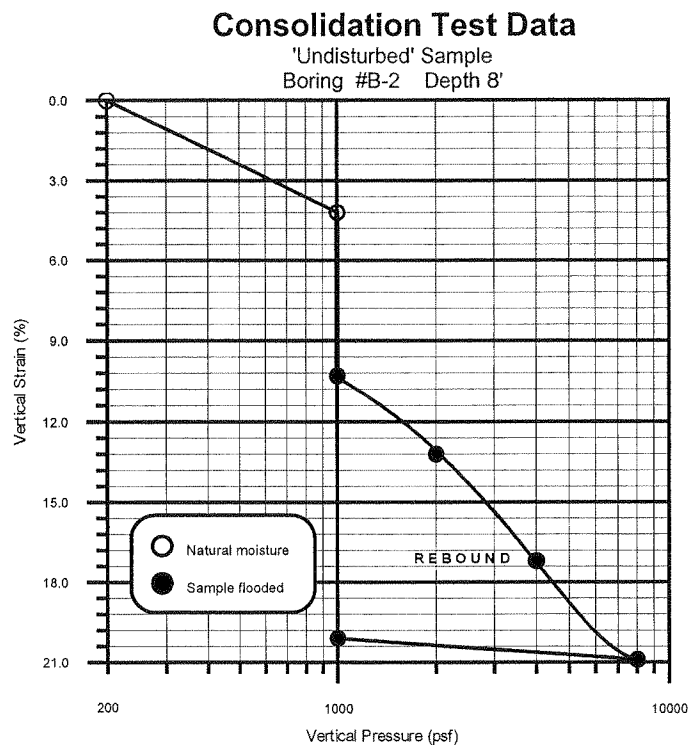
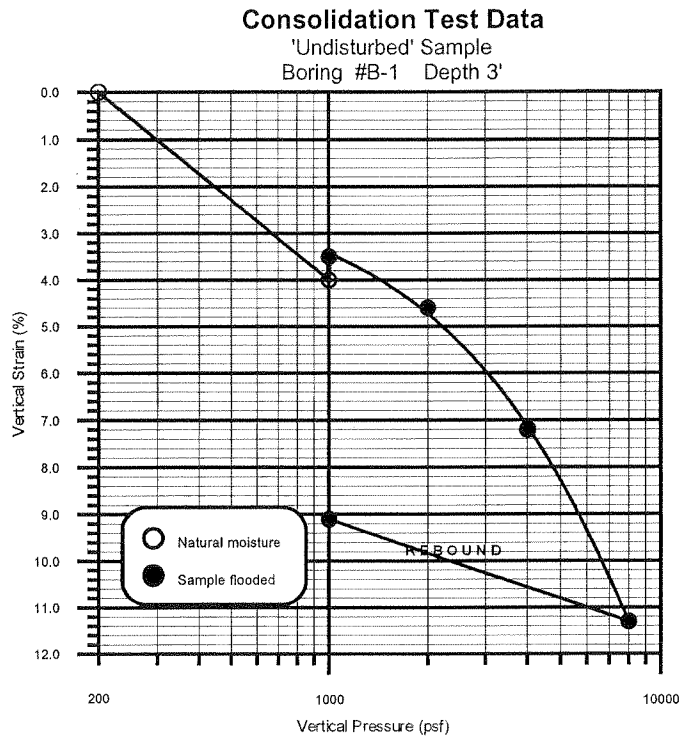
EXPANSION TESTS (UBC 18-2)

The Expansive Soil Index was determined by the present UBC 18-2 Expansion Determination Procedure. The results are tabulated below:

<u>BORING NO.</u>	<u>DEPTH (ft.)</u>	<u>DRY DENSITY (pcf)</u>	<u>MOISTURE CONTENT (%)</u>	<u>EXPANSION INDEX</u>	<u>POTENTIAL FOR EXPANSION</u>
1	3	94.1	15	73	Medium
2	8	84.0	19	93	High

CONSOLIDATION TESTS (ASTM D-2435)

Two consolidation tests were performed on representative in-place tube soil samples in both the natural field and at increased moisture contents. The results of the consolidation tests are presented graphically below.



DIRECT SHEAR TESTS (ASTM D-3080)

Two direct shear tests were performed on representative "undisturbed" soil samples which were 2.365 inches in diameter and 1 inch thick. The tests were performed under flooded conditions. The results are tabulated below:

<u>BORING NO.</u>	<u>DEPTH (ft.)</u>	<u>INTERNAL ANGLE OF FRICTION (degrees)</u>	<u>COHESION (psf)</u>
1	3	17.5	0
2	8	17.5	0

By MBV
Date 2-27-05
Chkd. By _____
Date _____

FLOWERS & ASSOCIATES, INC.
CIVIL ENGINEERS
500 E. Montecito Street
Santa Barbara, CA 93103
Telephone (805) 966-2224
Fax (805) 965-3372

W.O. # 0912
Ref. APN # 015-161-054
Sht. 1 of 27

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MAR 25 2005

CITY OF SANTA BARBARA
PLANNING DIVISION

PRELIMINARY DRAINAGE CALCULATIONS
TO SIZE STORAGE FACILITIES
TO ACCOMMODATE INCREASE RUNOFF
AS A RESULT OF THE SITE DEVELOPMENT
APN 015-161-054
EUCALYPTUS HILL ROAD
CITY OF SANTA BARBARA

REFERENCES

1. ENGINEERING DESIGN STANDARDS, PUBLIC WORKS DEPARTMENT,
COUNTY OF SANTA BARBARA, 1987
2. TOPOGRAPHIC MAP OF PROJECT SITE, DAVIS LAND SURVEYING,
AUGUST 2002
3. PRELIMINARY SITE IMPROVEMENTS, PETER HADDAD DESIGNS,
FEBRUARY 2005
4. RAINFALL INTENSITY AND DURATION CURVES, SANTA BARBARA
FLOOD CONTROL AND WATER CONSERVATION DISTRICT,
FEBRUARY 25, 2004
5. ROUGHNESS VALUES FOR TYPICAL CHANNELS, OPEN CHANNEL
HYDRAULICS, VEN TE CHOW, 1959

By MBU
Date 2-27-05
Chkd. By _____
Date _____

FLOWERS & ASSOCIATES, INC.
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Santa Barbara, CA 93103
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W.O. # 0512
Ref. APN# 015-161-054
Sht. 2 of 27

6. VALUES OF COEFFICIENT OF RUNOFF, PLACER COUNTY
LAND DEVELOPMENT MANUAL
7. MEMO TO ENGINEERING FIRMS DESIGNING DETENTION BASINS,
SANTA BARBARA FLOOD CONTROL AND WATER CONSERVATION
DISTRICT, OCTOBER 1, 2004
8. HYDROCAD STORMWATER MODELING SYSTEM, VERSION 7
HYDROCAD SOFTWARE SOLUTIONS LLC, 2004
9. SOIL SURVEY OF SANTA BARBARA COUNTY, CALIFORNIA
SOUTH COAST PART, UNITED STATES DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICES AND FOREST SERVICE,
FEBRUARY 1981
10. HANDBOOK OF HYDRAULICS, ERNEST F. BRATER, HORACE
WILLIAM KING, SIXTH EDITION

By MBU
Date 2-27-05
Chkd. By _____
Date _____

FLOWERS & ASSOCIATES, INC.

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Sht. 3 of 27

TRIBUTARY AREAS

PRE-DEVELOPED
CONDITION

LANDSCAPE
AREA

HARDSCAPE
AREA

14,000 S.F.

5,000 S.F.

POST-DEVELOPED
CONDITION

LANDSCAPE
AREA

HARDSCAPE
AREA

0

19,000 S.F.

SOIL TYPE - OAG FROM SOIL SURVEY OF SANTA BARBARA
HYDROLOGIC GROUP - B FROM SOIL SURVEY OF SANTA BARBARA
CN VALUE - 98 PAVED PARKING AND ROOF
- 73 WOODS / GRASS (POOR)

TIME OF CONCENTRATION - 12 MINUTES ✓

PIPE RUNOFF TO RETENTION FACILITY

USE PRE-MANUFACTURED CONCRETE TANKS FOR RETENTION FACILITIES

ASSUME FREE DISCHARGE OUT OF RETENTION FACILITIES

USE 4" ORFICE FOR DISCHARGE CONTROL

DISCHARGE COEFFICIENT - 0.6

RAINFALL FOR 100 YEAR STORM EVENT - 8.38 INCHES

By MBV
Date 2-27-05
Chkd. By _____
Date _____

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Ref. APN # 015-161-054
Sht. 4 of 27

USING THE PREVIOUS INFORMATION, THE PEAK DISCHARGE FROM THE AREA IN QUESTION FOR THE 100 YEAR STORM EVENT WILL BE:

PRE DEVELOPED CONDITION - 1.40 CFS

POST DEVELOPED CONDITION - 1.76 CFS

RETENTION FACILITIES SHOULD BE DESIGNED TO REDUCE THE PEAK DISCHARGE AFTER DEVELOPMENT TO A MAXIMUM OF 1.40 CFS FOR THE 100 YEAR STORM EVENT

USE 2 - 2500 GALLON PRE-CAST CONCRETE SEPTIC TANKS FOR THE RETENTION FACILITIES. (MAXIMUM DEPTH - 13.4'±)

USING THE ABOVE INFORMATION TO MODEL THE RETENTION FACILITIES THE PEAK DISCHARGE FOR A 100 YEAR STORM WOULD BE 1.40 CFS ± 1.40 CFS MAXIMUM

By M6V
Date 2-27-05
Chkd. By _____
Date _____

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Santa Barbara, CA 93103
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Fax (805) 965-3372

W.O. # 0512
Ref. APN# 015-161-054
Sht. 5 of 27

CONCLUSIONS:

THIS STUDY IS NOT INTENDED TO REPRESENT A HYDROLOGY STUDY OF THE ENTIRE PROJECT SITE (2 LOTS). IT IS INTENDED TO IDENTIFY THE INCREASE IN HARDSLAPES PROPOSED TO BE CONSTRUCTED ON THE PROJECT SITE (REMOVAL OF 5,000 SF OF HARD SLAPE AND THE CONSTRUCTION OF 19,000 SF OF HARD SLAPE.), AND IDENTIFY THAT AS A RESULT OF THE CONSTRUCTION OF THIS HARDSLAPES, ADDITIONAL STORM WATERS WILL BE RELEASED FROM THE PROJECT SITE. A PROPOSED ON-SITE DETENTION FACILITY IS REQUIRED TO BE CONSTRUCTED WITH THIS PROJECT TO PREVENT AN INCREASE OF STORM WATER RUNOFF FROM THE PROJECT SITE.



TABLE 9.—Soil and

Soil name and map symbol	Hydrologic group	Flooding		
		Frequency	Duration	Months
Maymen: Cont. MbH: Rock outcrop part -----				
Metz: Mc -----	A	Common -----	Brief -----	Nov-Mar -----
Milpitas: MdC, MdD, MdE, MdF -----	D	None -----		
¹ MeC, ¹ MeD2, ¹ MeE2, ¹ MeF2: Milpitas part -----	D	None -----		
Positas part -----	D	None -----		
Montara: MgF2 -----	D	None -----		
Nacimiento: NaF2 -----	C	None -----		
¹ NbG: Nacimiento part -----	C	None -----		
Landslide part -----				
Orthents: OAG -----	B	None -----		
Pits and dumps: PA -----				
Riverwash: RA -----				
Rock outcrop: ¹ Rb: Rock outcrop part -----				
Maymen part -----	D	None -----		
San Andreas: ¹ SaD2: San Andreas part -----	B	None -----		
Tierra part -----	D	None -----		
San Andreas: ¹ SaE2: San Andreas part -----	B	None -----		
Tierra part -----	D	None -----		
¹ SaF2: San Andreas part -----	B	None -----		
Tierra part -----	D	None -----		
Sanitary landfill areas: SB -----				
Santa Lucia: ScD2, ScE2, ScF2, ScG -----	C	None -----		
Tierra: ¹ TaE2: Tierra part -----	D	None -----		
San Andreas part -----	B	None -----		

Table 4-2. Theoretical Heads in Feet Corresponding to Velocities of 0 to 50 Ft per Sec. From the Formula

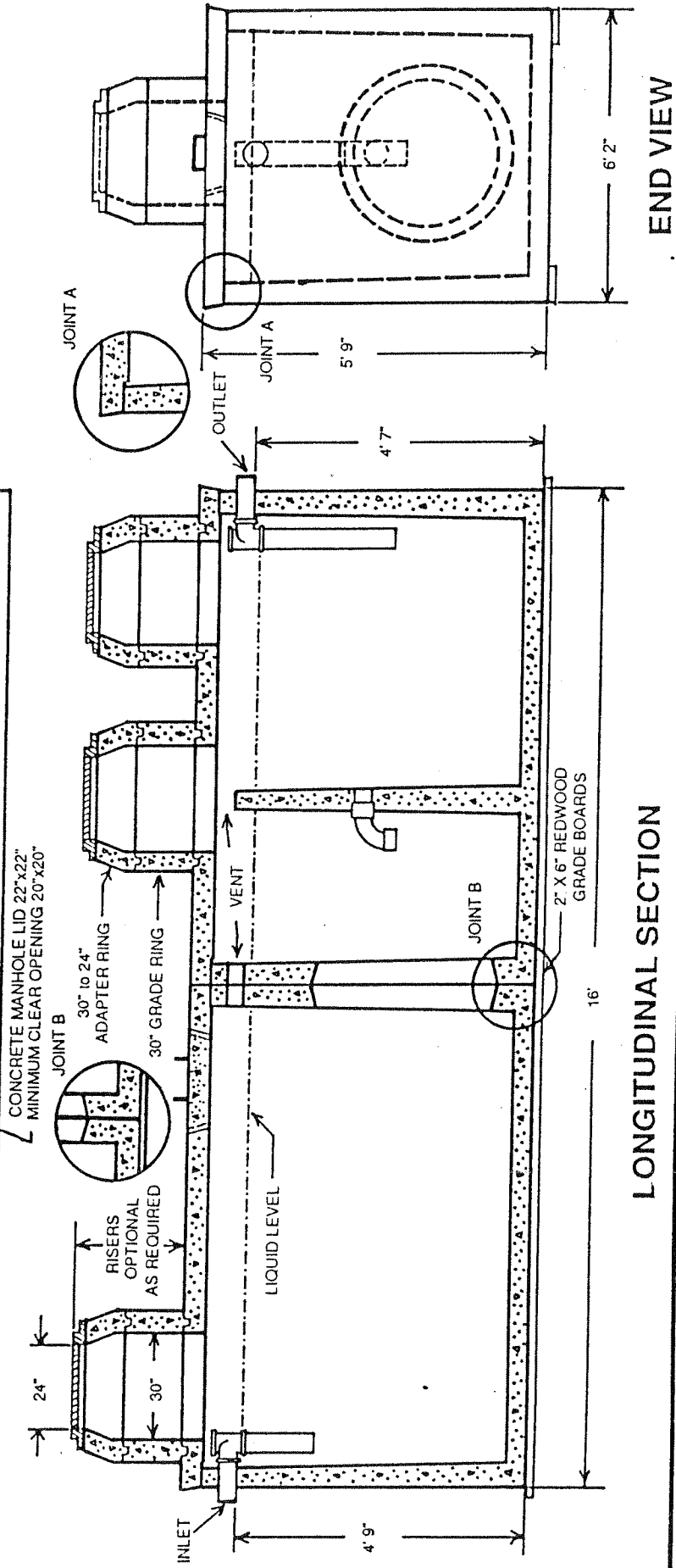
$$h_t = v^2/2g$$

Velocity in feet per second	0	1	2	3	4	5	6	7	8	9
0	0.000	0.000	0.001	0.001	0.002	0.003	0.004	0.006	0.008	0.010
1	0.018	0.036	0.054	0.072	0.090	0.108	0.126	0.144	0.162	0.180
2	0.072	0.144	0.216	0.288	0.360	0.432	0.504	0.576	0.648	0.720
3	0.108	0.216	0.324	0.432	0.540	0.648	0.756	0.864	0.972	1.080
4	0.144	0.288	0.432	0.576	0.720	0.864	1.008	1.152	1.296	1.440
5	0.180	0.360	0.540	0.720	0.900	1.080	1.260	1.440	1.620	1.800
6	0.216	0.432	0.648	0.864	1.080	1.296	1.512	1.728	1.944	2.160
7	0.252	0.504	0.756	1.008	1.260	1.512	1.764	2.016	2.268	2.520
8	0.288	0.576	0.864	1.152	1.440	1.728	2.016	2.304	2.592	2.880
9	0.324	0.648	0.972	1.296	1.584	1.872	2.160	2.448	2.736	3.024
10	0.360	0.720	1.080	1.440	1.728	2.016	2.304	2.592	2.880	3.168
11	0.396	0.792	1.188	1.584	1.872	2.160	2.448	2.736	3.024	3.312
12	0.432	0.864	1.296	1.728	2.016	2.304	2.592	2.880	3.168	3.456
13	0.468	0.936	1.404	1.872	2.160	2.448	2.736	3.024	3.312	3.600
14	0.504	1.008	1.512	2.016	2.304	2.592	2.880	3.168	3.456	3.744
15	0.540	1.080	1.620	2.160	2.448	2.736	3.024	3.312	3.600	3.888
16	0.576	1.152	1.728	2.304	2.592	2.880	3.168	3.456	3.744	4.032
17	0.612	1.224	1.836	2.448	2.736	3.024	3.312	3.600	3.888	4.176
18	0.648	1.296	1.944	2.592	2.880	3.168	3.456	3.744	4.032	4.320
19	0.684	1.368	2.052	2.736	3.024	3.312	3.600	3.888	4.176	4.464
20	0.720	1.440	2.160	2.880	3.168	3.456	3.744	4.032	4.320	4.608
21	0.756	1.512	2.268	3.024	3.312	3.600	3.888	4.176	4.464	4.752
22	0.792	1.584	2.376	3.168	3.456	3.744	4.032	4.320	4.608	4.896
23	0.828	1.656	2.484	3.312	3.600	3.888	4.176	4.464	4.752	5.040
24	0.864	1.728	2.592	3.456	3.744	4.032	4.320	4.608	4.896	5.184
25	0.900	1.800	2.700	3.600	3.888	4.176	4.464	4.752	5.040	5.328
26	0.936	1.872	2.808	3.744	4.032	4.320	4.608	4.896	5.184	5.472
27	0.972	1.944	2.916	3.888	4.176	4.464	4.752	5.040	5.328	5.616
28	1.008	2.016	3.024	4.032	4.320	4.608	4.896	5.184	5.472	5.760
29	1.044	2.088	3.132	4.176	4.464	4.752	5.040	5.328	5.616	5.904
30	1.080	2.160	3.240	4.320	4.608	4.896	5.184	5.472	5.760	6.048
31	1.116	2.232	3.348	4.464	4.752	5.040	5.328	5.616	5.904	6.192
32	1.152	2.304	3.456	4.608	4.896	5.184	5.472	5.760	6.048	6.336
33	1.188	2.376	3.564	4.752	5.040	5.328	5.616	5.904	6.192	6.480
34	1.224	2.448	3.672	4.896	5.184	5.472	5.760	6.048	6.336	6.624
35	1.260	2.520	3.780	5.040	5.328	5.616	5.904	6.192	6.480	6.768
36	1.296	2.592	3.888	5.184	5.472	5.760	6.048	6.336	6.624	6.912
37	1.332	2.664	3.996	5.328	5.616	5.904	6.192	6.480	6.768	7.056
38	1.368	2.736	4.104	5.472	5.760	6.048	6.336	6.624	6.912	7.200
39	1.404	2.808	4.212	5.616	5.904	6.192	6.480	6.768	7.056	7.344
40	1.440	2.880	4.320	5.760	6.048	6.336	6.624	6.912	7.200	7.488
41	1.476	2.952	4.428	5.904	6.192	6.480	6.768	7.056	7.344	7.632
42	1.512	3.024	4.536	6.048	6.336	6.624	6.912	7.200	7.488	7.776
43	1.548	3.096	4.644	6.192	6.480	6.768	7.056	7.344	7.632	7.920
44	1.584	3.168	4.752	6.336	6.624	6.912	7.200	7.488	7.776	8.064
45	1.620	3.240	4.860	6.480	6.768	7.056	7.344	7.632	7.920	8.208
46	1.656	3.312	4.968	6.624	6.912	7.200	7.488	7.776	8.064	8.352
47	1.692	3.384	5.076	6.768	7.056	7.344	7.632	7.920	8.208	8.496
48	1.728	3.456	5.184	6.912	7.200	7.488	7.776	8.064	8.352	8.640
49	1.764	3.528	5.292	7.056	7.344	7.632	7.920	8.208	8.496	8.784

Table 4-3. Smith's Coefficients of Discharge for Circular and Square Orifices with Full Contraction

Diameter of circular orifices, feet					Head, feet	Side of square orifices, feet									
0.02	0.04	0.07	0.1	0.2		0.02	0.04	0.07	0.1	0.2	0.6	1.0	1.0	1.0	1.0
0.637	0.637	0.624	0.618	0.601	0.4	0.643	0.636	0.628	0.621	0.605	0.598	0.597	0.597	0.597	0.598
0.655	0.630	0.618	0.613	0.601	0.6	0.660	0.636	0.623	0.617	0.605	0.600	0.599	0.599	0.599	0.599
0.648	0.626	0.615	0.610	0.601	0.8	0.652	0.631	0.620	0.615	0.605	0.601	0.601	0.601	0.601	0.601
0.644	0.623	0.612	0.608	0.600	1	0.648	0.628	0.618	0.613	0.605	0.602	0.602	0.602	0.602	0.602
0.637	0.618	0.608	0.605	0.600	1.5	0.641	0.622	0.614	0.610	0.605	0.602	0.602	0.602	0.602	0.602
0.632	0.614	0.606	0.604	0.599	2	0.637	0.619	0.612	0.608	0.605	0.604	0.602	0.602	0.602	0.602
0.629	0.612	0.605	0.603	0.599	2.5	0.634	0.617	0.610	0.607	0.605	0.604	0.602	0.602	0.602	0.602
0.627	0.611	0.604	0.603	0.599	3	0.632	0.616	0.609	0.607	0.605	0.604	0.602	0.602	0.602	0.602
0.623	0.609	0.603	0.602	0.599	4	0.628	0.614	0.608	0.606	0.605	0.603	0.602	0.602	0.602	0.602
0.618	0.607	0.602	0.600	0.598	6	0.623	0.612	0.607	0.605	0.604	0.603	0.602	0.602	0.602	0.602
0.614	0.605	0.601	0.600	0.598	8	0.619	0.610	0.606	0.605	0.604	0.603	0.602	0.602	0.602	0.602
0.611	0.603	0.599	0.598	0.597	10	0.616	0.608	0.605	0.604	0.603	0.602	0.601	0.601	0.601	0.601
0.601	0.599	0.597	0.596	0.596	20	0.606	0.604	0.602	0.602	0.602	0.601	0.601	0.601	0.601	0.601
0.596	0.595	0.594	0.594	0.594	50	0.602	0.601	0.601	0.600	0.600	0.599	0.599	0.599	0.599	0.599
0.593	0.592	0.592	0.592	0.592	100	0.599	0.598	0.598	0.598	0.598	0.598	0.598	0.598	0.598	0.598

For general notes and material specifications see specification sheet on last page of this section.



2500 GALLON PRECAST CONCRETE SEPTIC TANK

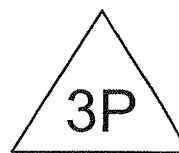
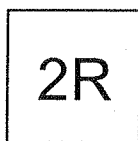
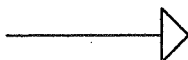
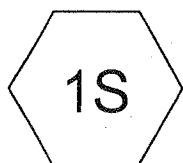
**MID-STATE
CONCRETE
PRODUCTS
INC.**

1625-C EAST DONOVAN
SANTA MARIA, CA 93454
PHONE: (805) 928-2855

S-2500LP



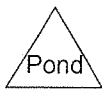
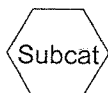
Pre Developed
Condition



Post Development
Condition

(new Reach)

Underground Tank



Jeffrey_Eucalyptus_Hill_Road_Project

Type I 24-hr Rainfall=8.38"

Prepared by Flowers & Associates, Inc.

Page 2

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3/2/2005

Time span=0.00-24.00 hrs, dt=0.10 hrs, 241 points

Runoff by SBUH method

Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1S: Post Developement Condition

Runoff Area=19,000 sf Runoff Depth=8.12"
Tc=12.0 min CN=98 Runoff=1.76 cfs 12,853 cf

Subcatchment 4S: Pre Developed Condition

Runoff Area=19,000 sf Runoff Depth=5.96"
Tc=12.0 min CN=80 Runoff=1.40 cfs 9,438 cf

Reach 2R: (new Reach)

Peak Depth=0.25' Max Vel=15.0 fps Inflow=1.76 cfs 12,853 cf
D=8.0" n=0.013 L=20.0' S=0.2500 '/' Capacity=6.04 cfs Outflow=1.76 cfs 12,853 cf

Pond 3P: Underground Tank

Peak Elev=93.34' Storage=200 cf Inflow=1.76 cfs 12,853 cf
Outflow=1.40 cfs 12,852 cf

Total Runoff Area = 38,000 sf Runoff Volume = 22,291 cf Average Runoff Depth = 7.04"

Jeffrey_Eucalyptus_Hill_Road_Project

Prepared by Flowers & Associates, Inc.

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Type I 24-hr Rainfall=8.38"

Page 3

3/2/2005

Subcatchment 1S: Post Development Condition

Runoff = 1.76 cfs @ 10.02 hrs, Volume= 12,853 cf, Depth= 8.12"

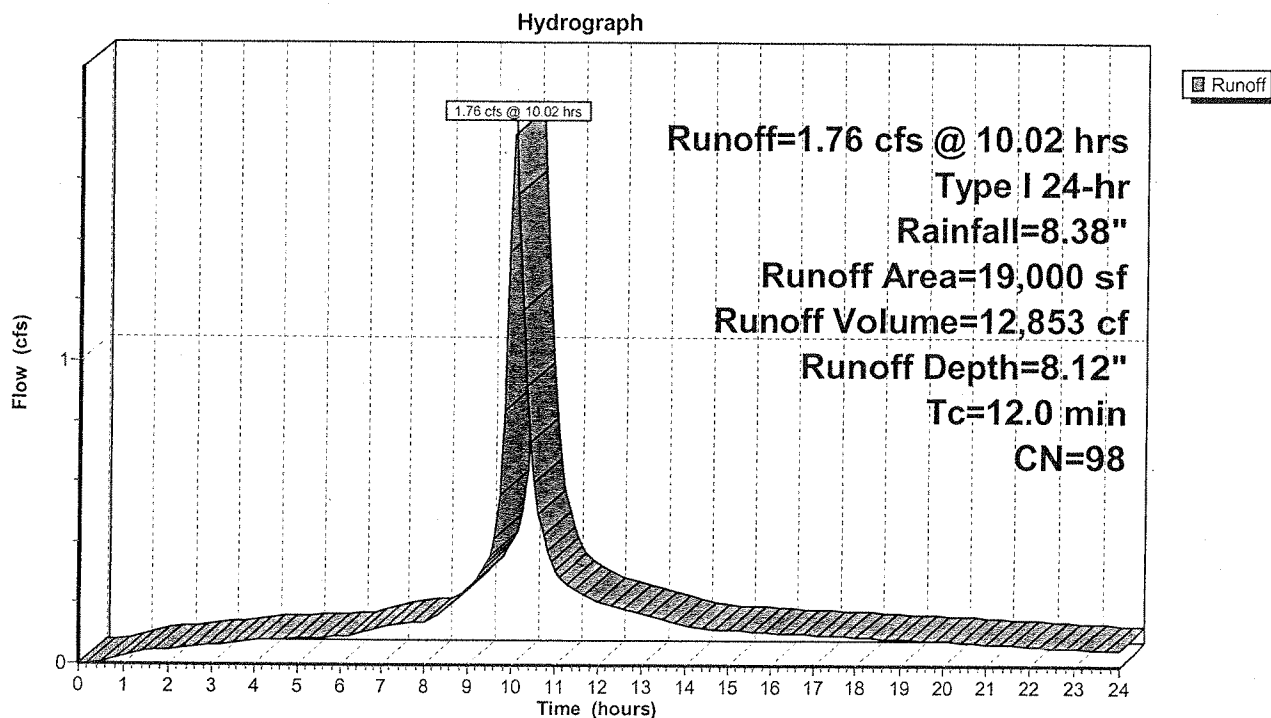
Runoff by SBUH method, Time Span= 0.00-24.00 hrs, dt= 0.10 hrs

Type I 24-hr Rainfall=8.38"

Area (sf)	CN	Description
0	73	Woods/grass comb., Poor, HSG B
19,000	98	Paved parking & roofs
19,000	98	Weighted Average

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.0					Direct Entry,

Subcatchment 1S: Post Development Condition



Jeffrey Eucalyptus Hill Road Project

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Type I 24-hr Rainfall=8.38"

Page 4

3/2/2005

Hydrograph for Subcatchment 1S: Post Development Condition

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
0.50	0.07	0.00	0.00
1.00	0.15	0.04	0.03
1.50	0.22	0.08	0.04
2.00	0.29	0.14	0.05
2.50	0.37	0.20	0.06
3.00	0.45	0.28	0.06
3.50	0.54	0.36	0.07
4.00	0.64	0.44	0.08
4.50	0.74	0.54	0.08
5.00	0.84	0.63	0.09
5.50	0.94	0.73	0.09
6.00	1.05	0.84	0.09
6.50	1.17	0.95	0.10
7.00	1.31	1.09	0.12
7.50	1.46	1.24	0.13
8.00	1.63	1.40	0.14
8.50	1.84	1.61	0.19
9.00	2.13	1.90	0.26
9.50	2.54	2.31	0.36
10.00	4.32	4.08	1.76
10.50	4.89	4.65	0.60
11.00	5.22	4.98	0.31
11.50	5.49	5.26	0.24
12.00	5.73	5.49	0.21
12.50	5.94	5.71	0.19
13.00	6.13	5.90	0.17
13.50	6.30	6.07	0.15
14.00	6.45	6.21	0.13
14.50	6.59	6.35	0.12
15.00	6.72	6.48	0.12
15.50	6.85	6.61	0.11
16.00	6.97	6.73	0.11
16.50	7.09	6.85	0.10
17.00	7.21	6.97	0.10
17.50	7.32	7.08	0.10
18.00	7.42	7.19	0.09
18.50	7.53	7.29	0.09
19.00	7.63	7.39	0.09
19.50	7.72	7.48	0.08
20.00	7.81	7.57	0.08
20.50	7.90	7.66	0.08
21.00	7.98	7.74	0.07
21.50	8.06	7.82	0.07
22.00	8.13	7.89	0.06
22.50	8.20	7.96	0.06
23.00	8.26	8.02	0.06
23.50	8.32	8.08	0.05
24.00	8.38	8.14	0.05

Jeffrey Eucalyptus Hill Road Project

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Type I 24-hr Rainfall=8.38"

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Subcatchment 4S: Pre Developed Condition

Runoff = 1.40 cfs @ 10.02 hrs, Volume= 9,438 cf, Depth= 5.96"

Runoff by SBUH method, Time Span= 0.00-24.00 hrs, dt= 0.10 hrs

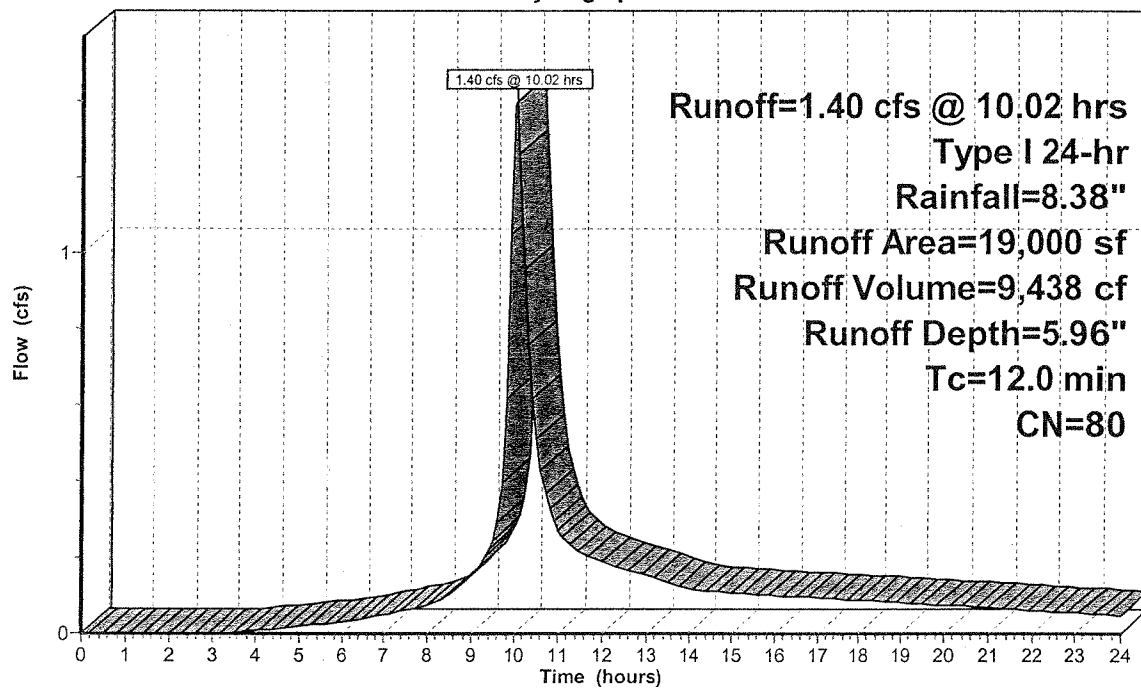
Type I 24-hr Rainfall=8.38"

Area (sf)	CN	Description
5,000	98	Paved parking & roofs
14,000	73	Woods/grass comb., Poor, HSG B
19,000	80	Weighted Average

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.0					Direct Entry,

Subcatchment 4S: Pre Developed Condition

Hydrograph



Runoff

Jeffrey_Eucalyptus_Hill_Road_Project*Type I 24-hr Rainfall=8.38"*

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3/2/2005**Hydrograph for Subcatchment 4S: Pre Developed Condition**

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
0.50	0.07	0.00	0.00
1.00	0.15	0.00	0.00
1.50	0.22	0.00	0.00
2.00	0.29	0.00	0.00
2.50	0.37	0.00	0.00
3.00	0.45	0.00	0.00
3.50	0.54	0.00	0.00
4.00	0.64	0.01	0.01
4.50	0.74	0.02	0.01
5.00	0.84	0.04	0.02
5.50	0.94	0.07	0.02
6.00	1.05	0.10	0.03
6.50	1.17	0.14	0.04
7.00	1.31	0.20	0.05
7.50	1.46	0.27	0.06
8.00	1.63	0.35	0.07
8.50	1.84	0.46	0.10
9.00	2.13	0.64	0.16
9.50	2.54	0.92	0.24
10.00	4.32	2.31	1.39
10.50	4.89	2.79	0.51
11.00	5.22	3.09	0.27
11.50	5.49	3.33	0.21
12.00	5.73	3.54	0.19
12.50	5.94	3.73	0.17
13.00	6.13	3.90	0.15
13.50	6.30	4.06	0.14
14.00	6.45	4.19	0.12
14.50	6.59	4.32	0.11
15.00	6.72	4.44	0.11
15.50	6.85	4.55	0.10
16.00	6.97	4.67	0.10
16.50	7.09	4.78	0.10
17.00	7.21	4.89	0.09
17.50	7.32	4.99	0.09
18.00	7.42	5.09	0.09
18.50	7.53	5.18	0.08
19.00	7.63	5.28	0.08
19.50	7.72	5.36	0.08
20.00	7.81	5.45	0.07
20.50	7.90	5.53	0.07
21.00	7.98	5.60	0.07
21.50	8.06	5.68	0.06
22.00	8.13	5.75	0.06
22.50	8.20	5.81	0.06
23.00	8.26	5.87	0.05
23.50	8.32	5.93	0.05
24.00	8.38	5.98	0.05

Jeffrey Eucalyptus Hill Road Project

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Type I 24-hr Rainfall=8.38"

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Reach 2R: (new Reach)

[52] Hint: Inlet conditions not evaluated

Inflow Area = 19,000 sf, Inflow Depth = 8.12"
Inflow = 1.76 cfs @ 10.02 hrs, Volume= 12,853 cf
Outflow = 1.76 cfs @ 10.02 hrs, Volume= 12,853 cf, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.10 hrs

Max. Velocity= 15.0 fps, Min. Travel Time= 0.0 min

Avg. Velocity = 6.8 fps, Avg. Travel Time= 0.0 min

Peak Depth= 0.25' @ 10.02 hrs

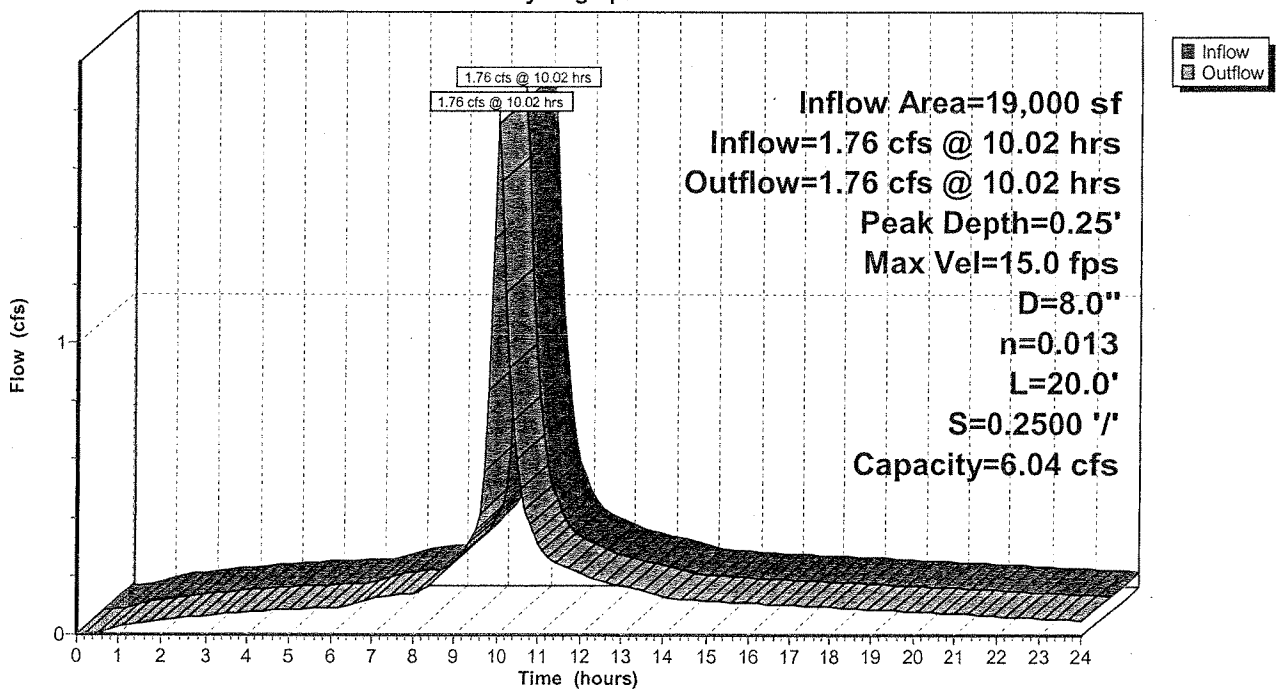
Capacity at bank full= 6.04 cfs

Inlet Invert= 100.00', Outlet Invert= 95.00'

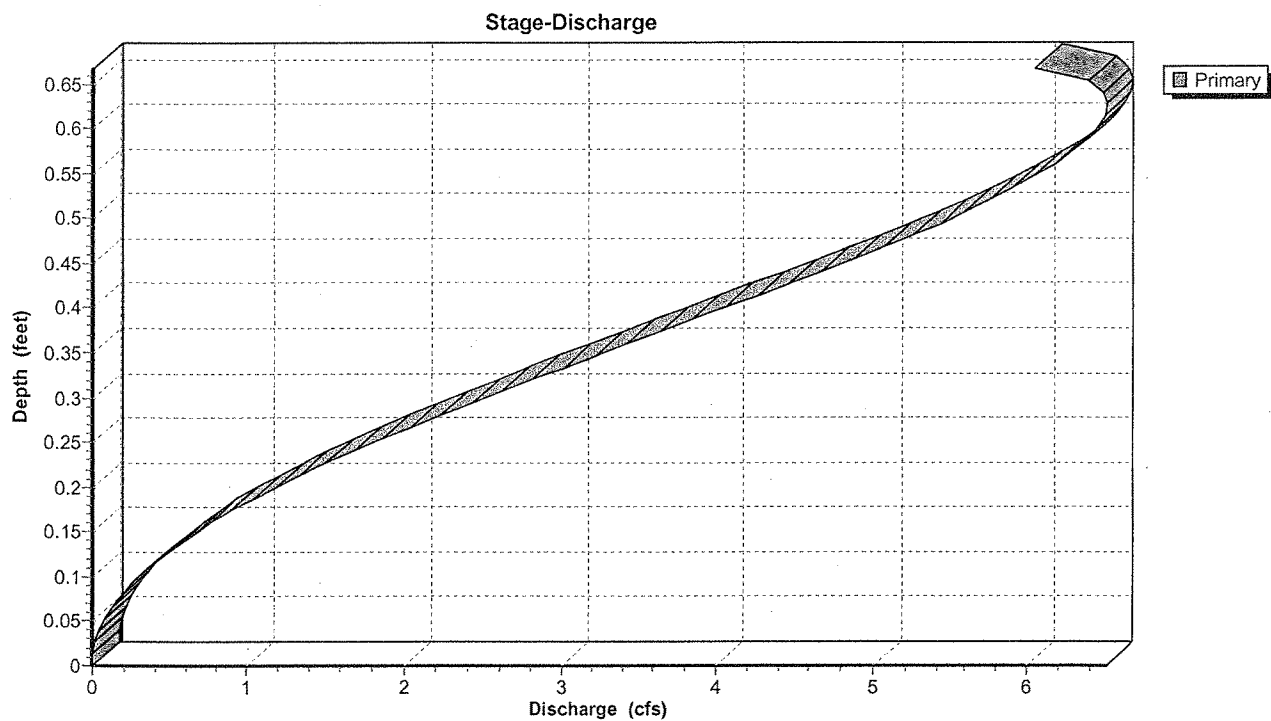
8.0" Diameter Pipe n= 0.013 Length= 20.0' Slope= 0.2500 '/'

Reach 2R: (new Reach)

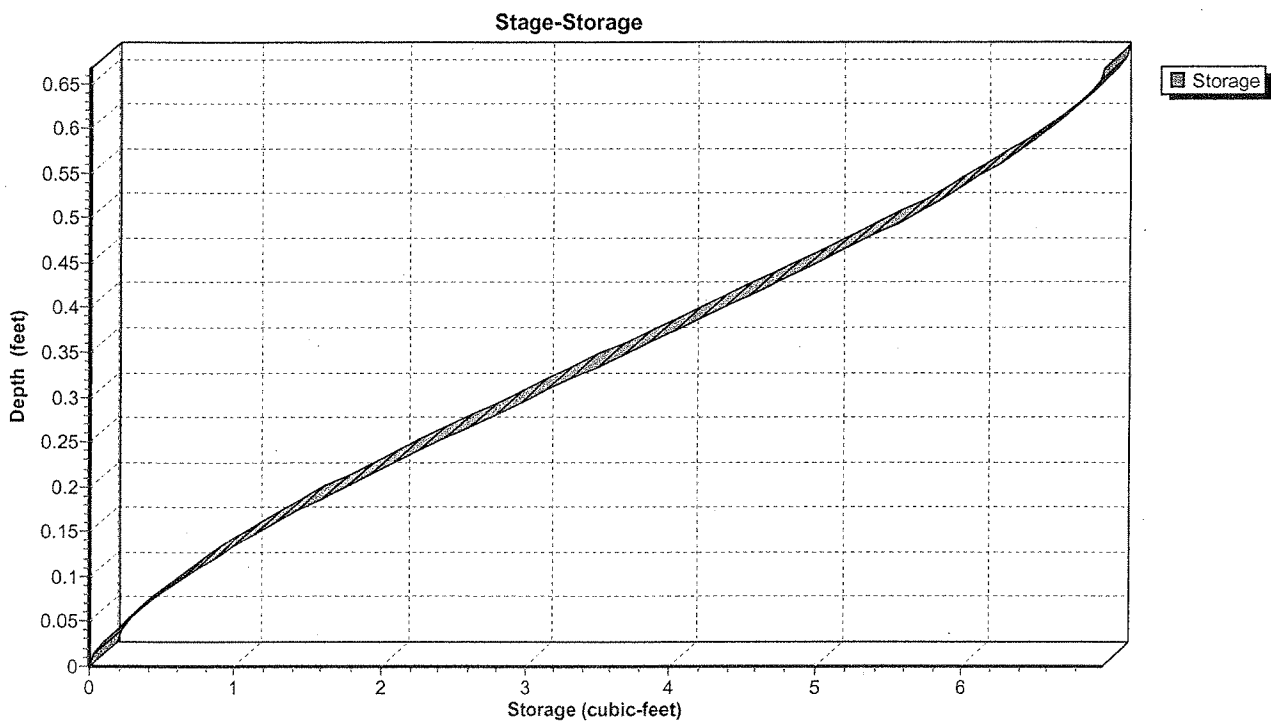
Hydrograph



Reach 2R: (new Reach)



Reach 2R: (new Reach)



Jeffrey_Eucalyptus_Hill_Road_Project*Type I 24-hr Rainfall=8.38"*

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Hydrograph for Reach 2R: (new Reach)

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Outflow (cfs)
0.00	0.00	0	100.00	0.00
0.50	0.00	0	100.01	0.00
1.00	0.03	0	100.03	0.03
1.50	0.04	0	100.04	0.04
2.00	0.05	0	100.04	0.05
2.50	0.06	0	100.04	0.06
3.00	0.06	0	100.05	0.06
3.50	0.07	0	100.05	0.07
4.00	0.08	0	100.05	0.08
4.50	0.08	0	100.05	0.08
5.00	0.09	0	100.06	0.09
5.50	0.09	0	100.06	0.09
6.00	0.09	0	100.06	0.09
6.50	0.10	0	100.06	0.10
7.00	0.12	0	100.07	0.12
7.50	0.13	0	100.07	0.13
8.00	0.14	0	100.07	0.14
8.50	0.19	0	100.08	0.18
9.00	0.26	1	100.09	0.26
9.50	0.36	1	100.11	0.36
10.00	1.76	2	100.25	1.75
10.50	0.60	1	100.14	0.60
11.00	0.31	1	100.10	0.31
11.50	0.24	1	100.09	0.24
12.00	0.21	1	100.08	0.21
12.50	0.19	0	100.08	0.19
13.00	0.17	0	100.08	0.17
13.50	0.15	0	100.07	0.15
14.00	0.13	0	100.07	0.13
14.50	0.12	0	100.07	0.12
15.00	0.12	0	100.06	0.12
15.50	0.11	0	100.06	0.11
16.00	0.11	0	100.06	0.11
16.50	0.10	0	100.06	0.10
17.00	0.10	0	100.06	0.10
17.50	0.10	0	100.06	0.10
18.00	0.09	0	100.06	0.09
18.50	0.09	0	100.06	0.09
19.00	0.09	0	100.06	0.09
19.50	0.08	0	100.05	0.08
20.00	0.08	0	100.05	0.08
20.50	0.08	0	100.05	0.08
21.00	0.07	0	100.05	0.07
21.50	0.07	0	100.05	0.07
22.00	0.06	0	100.05	0.06
22.50	0.06	0	100.05	0.06
23.00	0.06	0	100.05	0.06
23.50	0.05	0	100.04	0.05
24.00	0.05	0	100.04	0.05

Jeffrey Eucalyptus Hill Road Project

Type I 24-hr Rainfall=8.38"

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Stage-Discharge for Reach 2R: (new Reach)

Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)	Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)
100.00	0.0	0.00	100.52	19.7	5.76
100.01	2.0	0.00	100.53	19.7	5.87
100.02	3.2	0.01	100.54	19.7	5.98
100.03	4.2	0.02	100.55	19.7	6.08
100.04	5.0	0.04	100.56	19.7	6.17
100.05	5.8	0.07	100.57	19.7	6.25
100.06	6.5	0.10	100.58	19.6	6.33
100.07	7.2	0.14	100.59	19.6	6.39
100.08	7.8	0.18	100.60	19.5	6.44
100.09	8.4	0.24	100.61	19.3	6.48
100.10	8.9	0.29	100.62	19.2	6.50
100.11	9.5	0.36	100.63	19.0	6.50
100.12	10.0	0.43	100.64	18.8	6.47
100.13	10.5	0.50	100.65	18.5	6.42
100.14	11.0	0.58	100.66	18.1	6.30
100.15	11.4	0.67	100.67	17.3	6.04
100.16	11.8	0.76			
100.17	12.3	0.86			
100.18	12.7	0.96			
100.19	13.1	1.07			
100.20	13.4	1.18			
100.21	13.8	1.30			
100.22	14.1	1.42			
100.23	14.5	1.55			
100.24	14.8	1.68			
100.25	15.1	1.81			
100.26	15.4	1.94			
100.27	15.7	2.08			
100.28	16.0	2.22			
100.29	16.3	2.37			
100.30	16.5	2.52			
100.31	16.8	2.67			
100.32	17.0	2.82			
100.33	17.2	2.97			
100.34	17.5	3.12			
100.35	17.7	3.28			
100.36	17.9	3.43			
100.37	18.1	3.59			
100.38	18.2	3.75			
100.39	18.4	3.90			
100.40	18.6	4.06			
100.41	18.7	4.21			
100.42	18.9	4.37			
100.43	19.0	4.52			
100.44	19.1	4.67			
100.45	19.2	4.82			
100.46	19.3	4.96			
100.47	19.4	5.11			
100.48	19.5	5.24			
100.49	19.6	5.38			
100.50	19.6	5.51			
100.51	19.7	5.64			

Jeffrey Eucalyptus Hill Road Project

Type I 24-hr Rainfall=8.38"

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Stage-Area-Storage for Reach 2R: (new Reach)

Elevation (feet)	Storage (cubic-feet)	Elevation (feet)	Storage (cubic-feet)
100.00	0	100.52	6
100.01	0	100.53	6
100.02	0	100.54	6
100.03	0	100.55	6
100.04	0	100.56	6
100.05	0	100.57	6
100.06	0	100.58	6
100.07	0	100.59	7
100.08	0	100.60	7
100.09	1	100.61	7
100.10	1	100.62	7
100.11	1	100.63	7
100.12	1	100.64	7
100.13	1	100.65	7
100.14	1	100.66	7
100.15	1	100.67	7
100.16	1		
100.17	1		
100.18	2		
100.19	2		
100.20	2		
100.21	2		
100.22	2		
100.23	2		
100.24	2		
100.25	2		
100.26	3		
100.27	3		
100.28	3		
100.29	3		
100.30	3		
100.31	3		
100.32	3		
100.33	3		
100.34	4		
100.35	4		
100.36	4		
100.37	4		
100.38	4		
100.39	4		
100.40	4		
100.41	5		
100.42	5		
100.43	5		
100.44	5		
100.45	5		
100.46	5		
100.47	5		
100.48	5		
100.49	5		
100.50	6		
100.51	6		

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Jeffrey_Eucalyptus_Hill_Road_Project

Type I 24-hr Rainfall=8.38"

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3/2/2005

Pond 3P: Underground Tank

[85] Warning: Oscillations may require Finer Routing>1

Inflow Area = 19,000 sf, Inflow Depth = 8.12"
 Inflow = 1.76 cfs @ 10.02 hrs, Volume= 12,853 cf
 Outflow = 1.40 cfs @ 10.14 hrs, Volume= 12,852 cf, Atten= 20%, Lag= 7.5 min
 Primary = 1.40 cfs @ 10.14 hrs, Volume= 12,852 cf

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.10 hrs
 Peak Elev= 93.34' @ 10.14 hrs Surf.Area= 150 sf Storage= 200 cf
 Plug-Flow detention time= (not calculated: outflow precedes inflow)
 Center-of-Mass det. time= (not calculated)

#	Invert	Avail.Storage	Storage Description
1	92.00'	450 cf	Custom Stage Data (Prismatic) Listed below x 2

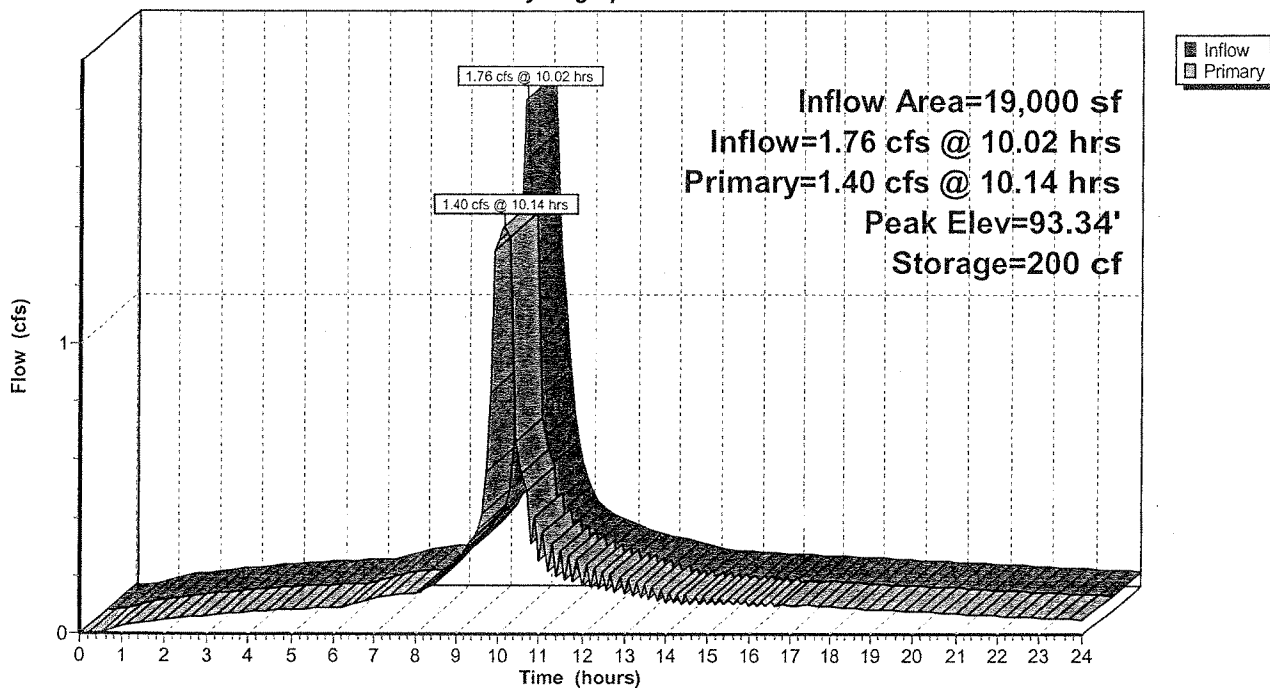
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
92.00	75	0	0
93.00	75	75	75
94.00	75	75	150
95.00	75	75	225

#	Routing	Invert	Outlet Devices
1	Primary	82.00'	4.0" Vert. Orifice/Grate C= 0.600

Primary OutFlow Max=1.40 cfs @ 10.14 hrs HW=93.25' (Free Discharge)
 1=Orifice/Grate (Orifice Controls 1.40 cfs @ 16.0 fps)

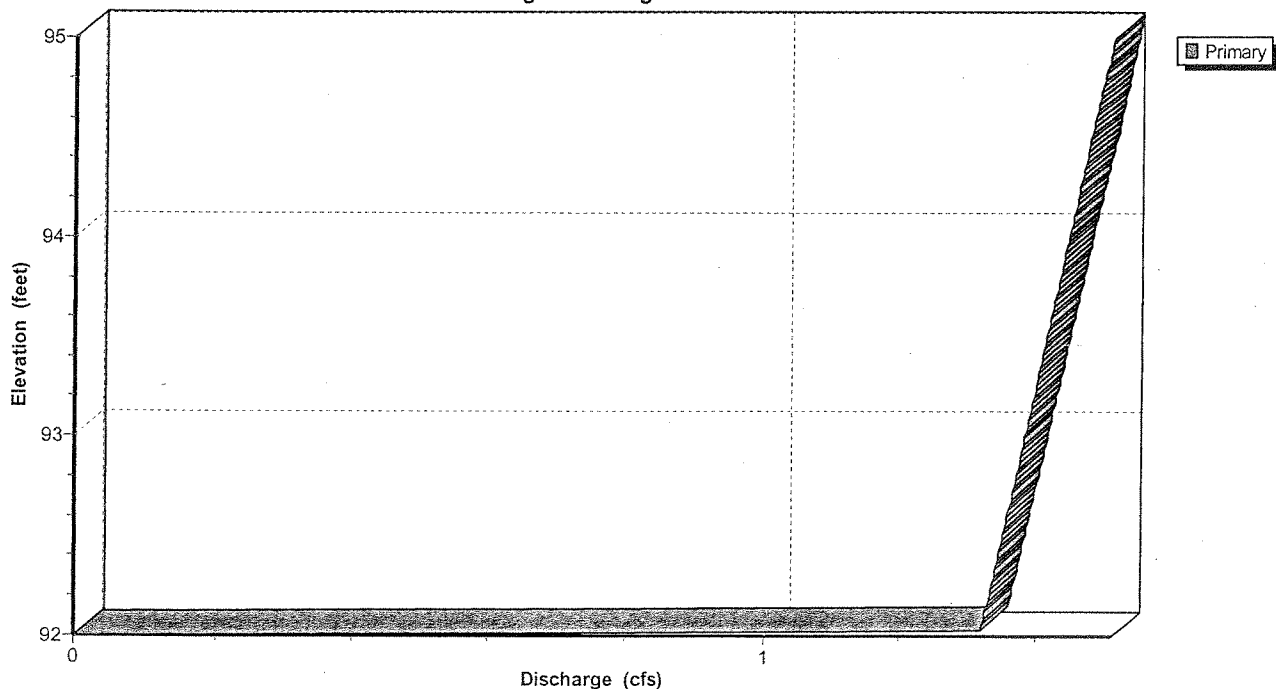
Pond 3P: Underground Tank

Hydrograph

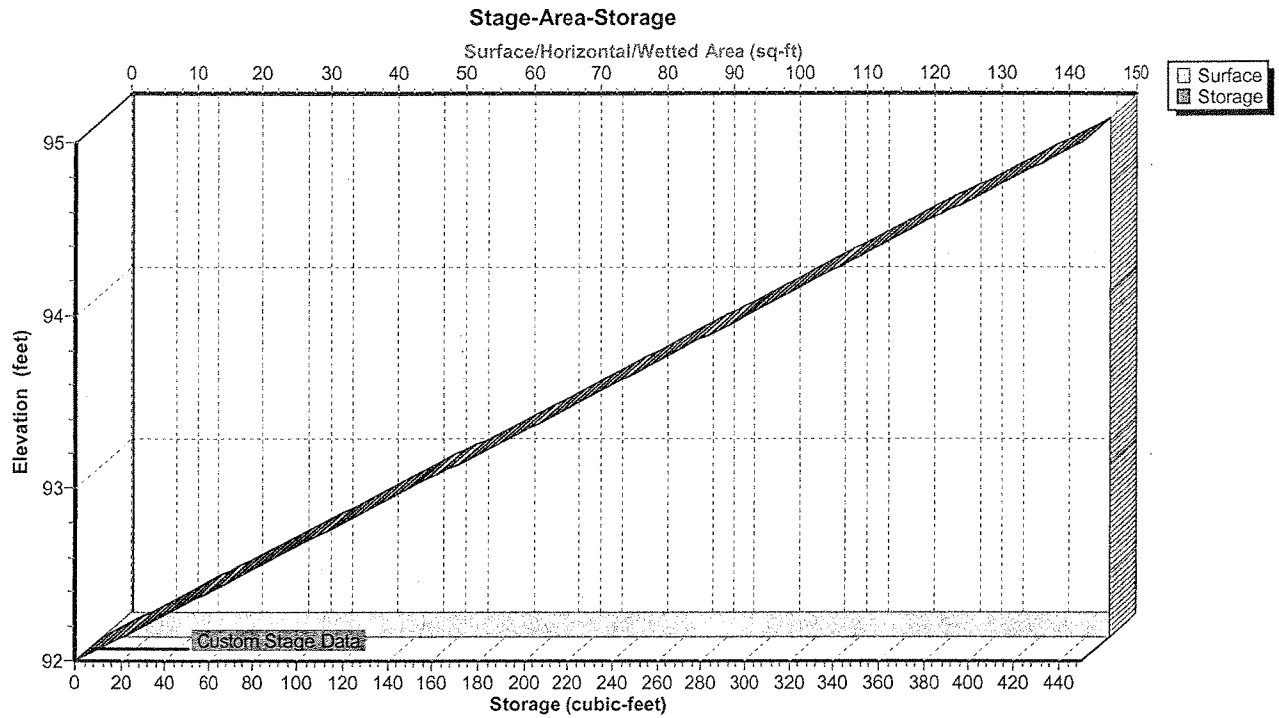


Pond 3P: Underground Tank

Stage-Discharge



Pond 3P: Underground Tank



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Type I 24-hr Rainfall=8.38"

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Hydrograph for Pond 3P: Underground Tank

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Primary (cfs)
0.00	0.00	0	92.00	0.00
0.50	0.00	0	92.00	0.00
1.00	0.03	0	92.00	0.03
1.50	0.04	0	92.00	0.04
2.00	0.05	0	92.00	0.05
2.50	0.06	0	92.00	0.06
3.00	0.06	0	92.00	0.06
3.50	0.07	0	92.00	0.07
4.00	0.08	0	92.00	0.08
4.50	0.08	0	92.00	0.08
5.00	0.09	0	92.00	0.09
5.50	0.09	0	92.00	0.09
6.00	0.09	0	92.00	0.09
6.50	0.10	0	92.00	0.10
7.00	0.12	0	92.00	0.12
7.50	0.13	0	92.00	0.13
8.00	0.14	0	92.00	0.14
8.50	0.18	1	92.00	0.18
9.00	0.26	1	92.01	0.26
9.50	0.36	1	92.01	0.36
10.00	1.75	90	92.60	1.36
10.50	0.60	2	92.02	0.68
11.00	0.31	1	92.01	0.25
11.50	0.24	1	92.01	0.29
12.00	0.21	1	92.00	0.17
12.50	0.19	1	92.01	0.22
13.00	0.17	0	92.00	0.14
13.50	0.15	1	92.00	0.17
14.00	0.13	0	92.00	0.11
14.50	0.12	0	92.00	0.14
15.00	0.12	0	92.00	0.10
15.50	0.11	0	92.00	0.12
16.00	0.11	0	92.00	0.10
16.50	0.10	0	92.00	0.11
17.00	0.10	0	92.00	0.10
17.50	0.10	0	92.00	0.10
18.00	0.09	0	92.00	0.09
18.50	0.09	0	92.00	0.09
19.00	0.09	0	92.00	0.08
19.50	0.08	0	92.00	0.09
20.00	0.08	0	92.00	0.08
20.50	0.08	0	92.00	0.08
21.00	0.07	0	92.00	0.07
21.50	0.07	0	92.00	0.07
22.00	0.06	0	92.00	0.06
22.50	0.06	0	92.00	0.06
23.00	0.06	0	92.00	0.06
23.50	0.05	0	92.00	0.05
24.00	0.05	0	92.00	0.05

Jeffrey_Eucalyptus_Hill_Road_Project

Type I 24-hr Rainfall=8.38"

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Stage-Discharge for Pond 3P: Underground Tank

Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)
92.00	0.00	93.04	1.39	94.08	1.45
92.02	1.32	93.06	1.39	94.10	1.45
92.04	1.32	93.08	1.39	94.12	1.45
92.06	1.32	93.10	1.39	94.14	1.45
92.08	1.32	93.12	1.39	94.16	1.46
92.10	1.32	93.14	1.39	94.18	1.46
92.12	1.33	93.16	1.39	94.20	1.46
92.14	1.33	93.18	1.39	94.22	1.46
92.16	1.33	93.20	1.40	94.24	1.46
92.18	1.33	93.22	1.40	94.26	1.46
92.20	1.33	93.24	1.40	94.28	1.46
92.22	1.33	93.26	1.40	94.30	1.46
92.24	1.33	93.28	1.40	94.32	1.46
92.26	1.33	93.30	1.40	94.34	1.47
92.28	1.34	93.32	1.40	94.36	1.47
92.30	1.34	93.34	1.40	94.38	1.47
92.32	1.34	93.36	1.41	94.40	1.47
92.34	1.34	93.38	1.41	94.42	1.47
92.36	1.34	93.40	1.41	94.44	1.47
92.38	1.34	93.42	1.41	94.46	1.47
92.40	1.34	93.44	1.41	94.48	1.47
92.42	1.35	93.46	1.41	94.50	1.48
92.44	1.35	93.48	1.41	94.52	1.48
92.46	1.35	93.50	1.41	94.54	1.48
92.48	1.35	93.52	1.42	94.56	1.48
92.50	1.35	93.54	1.42	94.58	1.48
92.52	1.35	93.56	1.42	94.60	1.48
92.54	1.35	93.58	1.42	94.62	1.48
92.56	1.35	93.60	1.42	94.64	1.48
92.58	1.36	93.62	1.42	94.66	1.49
92.60	1.36	93.64	1.42	94.68	1.49
92.62	1.36	93.66	1.42	94.70	1.49
92.64	1.36	93.68	1.43	94.72	1.49
92.66	1.36	93.70	1.43	94.74	1.49
92.68	1.36	93.72	1.43	94.76	1.49
92.70	1.36	93.74	1.43	94.78	1.49
92.72	1.37	93.76	1.43	94.80	1.49
92.74	1.37	93.78	1.43	94.82	1.49
92.76	1.37	93.80	1.43	94.84	1.50
92.78	1.37	93.82	1.43	94.86	1.50
92.80	1.37	93.84	1.44	94.88	1.50
92.82	1.37	93.86	1.44	94.90	1.50
92.84	1.37	93.88	1.44	94.92	1.50
92.86	1.37	93.90	1.44	94.94	1.50
92.88	1.38	93.92	1.44	94.96	1.50
92.90	1.38	93.94	1.44	94.98	1.50
92.92	1.38	93.96	1.44	95.00	1.51
92.94	1.38	93.98	1.44		
92.96	1.38	94.00	1.45		
92.98	1.38	94.02	1.45		
93.00	1.38	94.04	1.45		
93.02	1.38	94.06	1.45		

Jeffrey Eucalyptus Hill Road Project

Type I 24-hr Rainfall=8.38"

Prepared by Flowers & Associates, Inc.

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HydroCAD® 7.00 s/n 003026 © 1986-2003 Applied Microcomputer Systems

3/2/2005

Stage-Area-Storage for Pond 3P: Underground Tank

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
92.00	150	0	94.60	150	390
92.05	150	7	94.65	150	398
92.10	150	15	94.70	150	405
92.15	150	23	94.75	150	413
92.20	150	30	94.80	150	420
92.25	150	38	94.85	150	427
92.30	150	45	94.90	150	435
92.35	150	52	94.95	150	443
92.40	150	60	95.00	150	450
92.45	150	68			
92.50	150	75			
92.55	150	82			
92.60	150	90			
92.65	150	98			
92.70	150	105			
92.75	150	113			
92.80	150	120			
92.85	150	127			
92.90	150	135			
92.95	150	143			
93.00	150	150			
93.05	150	157			
93.10	150	165			
93.15	150	173			
93.20	150	180			
93.25	150	188			
93.30	150	195			
93.35	150	202			
93.40	150	210			
93.45	150	218			
93.50	150	225			
93.55	150	232			
93.60	150	240			
93.65	150	248			
93.70	150	255			
93.75	150	263			
93.80	150	270			
93.85	150	277			
93.90	150	285			
93.95	150	293			
94.00	150	300			
94.05	150	307			
94.10	150	315			
94.15	150	323			
94.20	150	330			
94.25	150	338			
94.30	150	345			
94.35	150	352			
94.40	150	360			
94.45	150	368			
94.50	150	375			
94.55	150	382			

1776 Eucalyptus Hill Road, MST2002-00614

MITIGATION MONITORING AND REPORTING PROGRAM

PURPOSE

The purpose of the **1776 Eucalyptus Hill Road** Mitigation Monitoring and Reporting Program (MMRP) is to ensure compliance with all mitigation measures identified in the Initial Study to mitigate or avoid potentially significant adverse environmental impacts resulting from the proposed project. The implementation of this MMRP shall be accomplished by City staff and the project developer's consultants and representatives. The program shall apply to the following phases of the project:

- Plan and specification preparation
- Pre-construction conference
- Construction of the site improvements
- Post Construction

I. RESPONSIBILITIES AND DUTIES

A qualified representative of the developer, approved by the City Planning Division and paid for by the developer, shall be designated as the Project Environmental Coordinator (PEC). The PEC shall be responsible for assuring full compliance with the provisions of this mitigation monitoring and reporting program to the City. The PEC shall have authority over all other monitors/specialists, the contractor, and all construction personnel for those actions that relate to the items listed in this program.

It is the responsibility of the contractor to comply with all mitigation measures listed in the attached MMRP matrix. Any problems or concerns between monitors and construction personnel shall be addressed by the PEC and the contractor. The contractor shall prepare a construction schedule subject to the review and approval of the PEC. The contractor shall inform the PEC of any major revisions to the construction schedule at least 48 hours in advance. The PEC and contractor shall meet on a weekly basis in order to assess compliance and review future construction activities.

A. PRE-CONSTRUCTION BRIEFING

The PEC shall prepare a pre-construction project briefing report. The report shall include a list of all mitigation measures and a plot plan delineating all sensitive areas to be avoided. This report shall be provided to all construction personnel.

The pre-construction briefing shall be conducted by the PEC. The briefing shall be attended by the PEC, construction manager, necessary consultants, Planning Division Case Planner, Public Works representative and all contractors and subcontractors associated with the project. Multiple pre-construction briefings shall be conducted as the work progresses and a change in contractor occurs.

The MMRP shall be presented to those in attendance. The briefing presentation shall include project background, the purpose of the MMRP, duties and responsibilities of each participant, communication procedures, monitoring criteria, compliance criteria, filling out of reports, and duties and responsibilities of the PEC and project consultants.

It shall be emphasized at this briefing that the PEC and project consultants have the authority to stop construction and redirect construction equipment in order to comply with all mitigation measures.

Once construction commences, field meetings between the PEC and project consultants, and contractors shall be held on an as-needed basis in order to create feasible mitigation measures for unanticipated impacts, assess potential effects, and resolve conflicts.

II. IMPLEMENTATION PROCEDURES

There are three types of activities which require monitoring. The first type pertains to the review of the Conditions of Approval and Construction Plans and Specifications. The second type relates to construction activities and the third to ongoing monitoring activities during operation of the project.

A. MONITORING PROCEDURES

The PEC and required consultant(s) shall monitor all field activities. The authority and responsibilities of the PEC and consultant(s) are described in the previous section.

B. REPORTING PROCEDURES

The following three (3) types of reports shall be prepared:

1. Schedule

The PEC and contractor shall prepare a monthly construction schedule to be submitted to the City prior to or at the pre-construction briefing.

2. General Progress Reports

The PEC shall be responsible for preparing written progress reports submitted to the City. These reports would be expected on a weekly basis during grading, excavation and construction, activities. The reports would document field activities and compliance with project mitigation measures, such as dust control and sound reduction construction.

3. Final Report

A final report shall be submitted to the Planning Division when all monitoring (other than long term operational) has been completed and shall include the following:

- a. A brief summary of all monitoring activities.
- b. The date(s) the monitoring occurred.
- c. An identification of any violations and the manner in which they were dealt with.

- d. Any technical reports required, such as noise measurements.
- e. A list of all project mitigation monitors.

C. MMRP MATRIX

The following MMRP Matrix describes each initial study mitigation measure, monitoring activities and the responsibilities of the various parties, along with the timing and frequency of monitoring and reporting activities. For complete language of each condition, the matrix should be used in conjunction with the mitigation measures described in full in the Initial Study.

The MMRP Matrix is intended to be used by all parties involved in monitoring the project mitigation measures, as well as project contractors and others working in the field. The Matrix should be used as a compliance checklist to aid in compliance verification and monitoring requirements. A copy of the MMRP matrix shall be kept in the project file as verification that compliance with all mitigation measures has occurred.

1776 EUCALYPTUS HILL ROAD (MST#2002-00614)
MITIGATION MONITORING AND REPORTING PROGRAM MATRIX

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MITIGATION MEASURE	MONITORING REQUIREMENT	RESPONSIBLE ENTITY	MONITOR	ACTION BY MONITOR	MITIGATION TIMING	MONITORING FREQUENCY	COMPLIANCE CHECK	VERIFICATION
AQ-1	Minimize amount of disturbed area and reduce on site vehicle speeds to 15 miles per hour or less.	Applicant/ Contractor	PEC	Check in field	Throughout duration of grading activities	Daily, during grading activities	PEC Reports	
AQ-2	During site grading and transportation of fill materials, regular water sprinkling shall occur using reclaimed water whenever the Public Works Director determines that it is reasonably available. During clearing, grading, earth moving or excavation, sufficient quantities of water, through use of either water trucks or sprinkler systems, shall be applied to prevent dust from leaving the site. Each day, after construction activities cease, the entire area of disturbed soil shall be sufficiently moistened to create a crust. Throughout construction, water trucks or sprinkler systems shall also be used to keep all areas of vehicle movement damp enough to prevent dust raised from leaving the site. At a minimum, this will include wetting down such areas in the late morning and after work is completed for the day. Increased watering frequency will be required whenever the wind speed exceeds 15 mph.	Applicant/ Contractor	PEC	Check in field	Throughout duration of grading activities	Daily, during grading activities	PEC Reports	
AQ-3	Trucks transporting fill material to and from the site shall be covered from the point of origin.	Applicant/ Contractor	PEC	Check in field	Throughout duration of grading activities	Daily, during grading activities	PEC Reports	
AQ-4	Gravel pads shall be installed at all access points to prevent tracking of mud on to public roads.	Applicant/ Contractor	PEC	Check in field	Throughout project duration	Daily	PEC Reports	
AQ-5	After clearing, grading, earth moving or excavation is complete, the entire area of disturbed soil shall be treated to prevent wind pickup of soil.	Applicant/ Contractor	PEC	Check in field	After completion of grading	Daily, after grading is complete	PEC Reports	

1776 EUCALYPTUS HILL ROAD (MST#2002-00614)
MITIGATION MONITORING AND REPORTING PROGRAM MATRIX

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MITIGATION MEASURE	MONITORING REQUIREMENT	RESPONSIBLE ENTITY	MONITOR	ACTION BY MONITOR	MITIGATION TIMING	MONITORING FREQUENCY	COMPLIANCE CHECK	VERIFICATION
AQ-6	The following shall be adhered to during project grading and construction to reduce NOx and particulate emissions from construction equipment: 1. Heavy-duty diesel-powered construction equipment manufactured after 1996 (with federally mandated "clean" diesel engines) shall be utilized wherever feasible. 2. The engine size of construction equipment shall be the minimum practical size. 3. The number of construction equipment operating simultaneously shall be minimized through efficient management practices to ensure that the smallest practical number is operating at any one time. 4. Construction equipment shall be maintained in tune per the manufacturer specifications. 5. Catalytic converters shall be installed on gasoline-powered equipment, if feasible. 6. Diesel powered equipment shall be replaced by electric equipment whenever feasible.	Applicant/ Contractor	PEC	Check in field	Throughout project duration	Daily	PEC Reports	
B-1	Temporary construction fencing shall be installed six feet away from the outer edge of the riparian oak tree canopy. The fencing shall be installed prior to any grading on site and shall be maintained throughout duration of construction activities.	Applicant/ Contractor	PEC	Check in field	Throughout project duration	Daily	PEC Reports	
B-2	A 25-foot wide outer riparian buffer zone shall be established from the edge of the oak riparian woodland. The existing non-native trees and shrubs in this outer buffer zone should be removed and the area landscaped with compatible native vegetation. Plants listed by the California Invasive Plant Council as Red Alert of List A invasive plant should not be used.	Applicant/ Contractor/ Landscape Architect	ABR/ Planning Division/ PEC	Check for compliance	Prior to final ABR approval/ at building plan check	At building plan check and verify in the field	PEC Report	
B-3	Prior to issuance of a building permit, the applicant shall obtain permits, or evidence of exemption from permits, from the Department of Fish and Game (a Streambed Alteration Agreement), U.S. Army Corps of Engineers and Regional Water Quality Control Board, for grading and installation of drainage devices within the banks of the creek.	Applicant	Planning Division	Check for compliance	At building plan check	Once, at building plan check	Planning Division	
B-4	A replacement plan for the three Coast Live Oaks to be removed shall be included in the landscape plans for Parcel A or B to be reviewed and approved by the Architectural Board of Review. Replacement oaks shall be the same species as those removed. The replacement rate shall be at least one-to-one.	Applicant/ Landscape Architect	ABR/ Planning Division	Check for compliance	Prior to final ABR approval and at building plan check	At building plan check and verify in the field	Planning Division/ Building & Safety Division	

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MITIGATION MEASURE	MONITORING REQUIREMENT	RESPONSIBLE ENTITY	MONITOR	ACTION BY MONITOR	MITIGATION TIMING	MONITORING FREQUENCY	COMPLIANCE CHECK	VERIFICATION
B-5	The alignment of the aboveground storm drain pipe shall be staked prior to installation for review by City staff and other permitting agencies. Alignment shall avoid all native trees and shall minimize removal of mature vegetation.	Applicant/ Contractor	Planning Division / Building & Safety Division/ Engineering Division/ other permitting agencies	Review on-site	Prior to pipeline installation	Once, prior to pipeline installation	Planning Division / Building & Safety Division	
G-1	Site preparation, grading and project construction related to soil conditions shall be in accordance with the recommendations contained in the Preliminary Foundation Investigation prepared by Pacific Materials Laboratory, dated November 12, 2004. Compliance shall be demonstrated on plans submitted for grading and/or building permits for both Phase 1 and Phase 2.	Applicant/ Contractor	Building & Safety Division	Check for compliance	At building plan check	Twice, at building plan check for Phase 1 and Phase 2	Building & Safety Division	
H-1	Residences located in the High Fire Hazard area are required to maintain vegetation to create an effective fuel break by thinning dense vegetation (mosaic style) and removing dry brush, flammable vegetation and combustible growth from areas within 100 feet of all buildings or structures. The owner shall also perform required annual maintenance for the life of the project.	Applicant/ Contractor	Fire Dept.	Check for compliance	At building plan check	Once, at building plan check and verify in the field	Fire Dept.	
H-2	The landscape plan shall adhere to the Fire Department Landscape Guidelines for properties that are in the high fire hazard area. These plans shall be reviewed and approved by the Architectural Board of Review and the Fire Department.	Applicant/ Contractor	Fire Dept.	Check for compliance	At building plan check	Once, at building plan check and verify in the field	Fire Dept.	

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MITIGATION MEASURE	MONITORING REQUIREMENT	RESPONSIBLE ENTITY	MONITOR	ACTION BY MONITOR	MITIGATION TIMING	MONITORING FREQUENCY	COMPLIANCE CHECK	VERIFICATION
N-1	Noise-generating construction activities associated with Phase 1 of the project (which may include preparation for construction work) shall be permitted weekdays between the hours of 8:00 a.m. and 5:00 p.m., excluding holidays observed by the City as legal holidays: New Year's Day (January 1st); Martin Luther King Jr.'s Birthday (3rd Monday in January); President's Day (3rd Monday in February); Memorial Day (Last Monday in May); Independence Day (July 4th); Labor Day (1st Monday in September); Thanksgiving Day (4th Thursday in November); Day Following Thanksgiving Day (Friday following Thanksgiving); Christmas Day (December 25th). *When a holiday falls on a Saturday or Sunday, the preceding Friday or following Monday respectively shall be observed as a legal holiday.	Applicant/ Contractor	PEC	Check in field	Throughout project duration	Daily	PEC Reports	
N-2	All construction equipment, including trucks, shall be professionally maintained and fitted with standard manufacturers' muffler and silencing devices.	Applicant/ Contractor	PEC	Check in field	Throughout project duration	Daily	PEC Reports	
T-1	The haul routes for all construction-related trucks, three tons or more, entering or exiting the site, shall be approved by the Transportation Engineer. Construction-related truck trips shall not be scheduled during peak hours (7:00 a.m. to 9:00 a.m. and 4:00 p.m. to 6:00 p.m.) to help reduce truck traffic and noise on adjacent streets and roadways. The route of construction-related traffic shall be established to minimize trips through surrounding residential neighborhoods.	Applicant/ Contractor	PEC	Establish routing plan with Transportation Division and ensure plan is followed	Throughout project duration	Daily	PEC Reports	
T-2	Construction parking and vehicle/ equipment/ materials storage shall be provided as follows: 1. During construction, free parking spaces for construction workers shall be provided on-site. 2. On-site or off-site storage shall be provided for construction materials, equipment, and vehicles. Storage of construction materials within the public right-of-way is prohibited.	Applicant/ Contractor	PEC	Determine parking and storage areas with Transportation Division and ensure areas are used	Throughout project duration	Daily	PEC Reports	

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MITIGATION MEASURE	MONITORING REQUIREMENT	RESPONSIBLE ENTITY	MONITOR	ACTION BY MONITOR	MITIGATION TIMING	MONITORING FREQUENCY	COMPLIANCE CHECK	VERIFICATION
W-1	Any increase in runoff above existing conditions shall be retained on site, consistent with the City's NPDES Guidelines. Runoff from the two cisterns should be directed into a bioswale-type area or landscape features such as planter beds and/or lawns to increase soil infiltration. Project plans for grading, drainage, stormwater facilities, and project development, shall be subject to review and approval by City Building Division and Public Works Department per City regulations. Sufficient engineered design and adequate measures shall be employed to ensure that no significant construction-related or long-term effects from increased runoff, erosion and sedimentation, urban water quality pollutants, or groundwater pollutants would result from the project. The Owner shall maintain the storm drain energy dissipater consistent with an approved maintenance plan. This plan shall be provided with the building plan submittal for review and approval by Community Development prior to approval of building permits.	Applicant/ Contractor	Planning Division/ Building & Safety Division/ Engineering Division	Check for compliance	At building plan check	At building plan check and verify in the field	Planning Division/ Building & Safety Division/ Engineering Division	

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MITIGATION MEASURE	MONITORING REQUIREMENT	RESPONSIBLE ENTITY	MONITOR	ACTION BY MONITOR	MITIGATION TIMING	MONITORING FREQUENCY	COMPLIANCE CHECK	VERIFICATION
W-2	<p>Appropriate erosion/sediment control devices between the construction zone and adjacent areas shall be installed prior to initiation of grading or construction activities and shall be maintained throughout the duration of Phase 1 construction and again during construction of a future residence on the site as mitigation for short-term impacts to water quality from erosion and sedimentation. The applicant shall submit and obtain Building Division or Public Works Department approval of a detailed erosion control plan for the project prepared by a licensed or certified professional soil erosion and sediment control specialist, a California licensed civil engineer, landscape architect, registered geologist, or a licensed architect. The plan shall include Best Management Practices approved by the City and Regional Water Quality Control Board, and shall include, at a minimum, the following:</p> <ol style="list-style-type: none"> 1. Minimize the area of bare soil exposed at one time (phased grading). 2. Install silt fence, sand bag, hay bale or silt devices where necessary around the project site to prevent offsite transport of sediment. 3. Bare soils shall be protected from erosion by applying heavy seeding, within five days of clearing or inactivity in construction. 4. Construction entrances should be stabilized immediately after grading and frequently maintained to prevent erosion and control dust. 5. During construction of the home, the contractor and/or property owner shall protect the storm drain inlets from sediment-laden runoff. 6. Erosion control materials (i.e. sandbags, strawbales, and silt fencing) shall be used to trap and filter sediment before entering the storm drain. 7. Establish fuel and vehicle maintenance staging areas located away from all drainage courses, and design these areas to control runoff. 8. Maintain and wash equipment and machinery in confined areas specifically designed to control runoff. Thinners or solvents should not be discharged into sanitary or storm sewer systems. Washout from concrete trucks should be disposed of at a location not subject to runoff and more than 50 feet away from a storm drain, open ditch or surface water. <p>Construction site operators shall be responsible for implementation of sedimentation control and good housekeeping measures in accordance with the approved erosion control plan and the Public Works Department Procedures for the Control of Runoff into Storm Drains and Watercourses. City (Building Division or Public Works Department) staff will site inspect to ensure proper installation, ongoing implementation, and effectiveness of approved BMPs, and may adjust requirements in the field if necessary to protect water quality.</p>	Applicant/ Contractor	Planning Division/ Building & Safety Division/ Engineering Division/ PEC	Check for compliance	At building plan check and throughout project duration	Daily	PEC Reports/ Building & Safety Division	

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MITIGATION MEASURE	MONITORING REQUIREMENT	RESPONSIBLE ENTITY	MONITOR	ACTION BY MONITOR	MITIGATION TIMING	MONITORING FREQUENCY	COMPLIANCE CHECK	VERIFICATION
W-3	Permeable/porous paving materials shall be utilized where possible to reduce the impermeability of hardscape surfaces.	Applicant/ Contractor	ABR/ Planning Division/ Building & Safety Division	Check for compliance	At plan check	Once, at plan check and verify in the field	Building & Safety Division	